A Lecture

ON

THE COÖRDINATION OF POST-MORTEM WORK AND CLINICAL OBSERVATION.

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GENTLEMEN,—A sound clinical knowledge of disease is impossible without a sufficient knowledge of the pathology of disease. Therefore the importance of bringing into close relationship the pathological changes found in the post-mortem room and our observations of disease made during life is obvious. At a time when the great advances in science have made it necessary that the teachers of pathology in our medical schools should give their whole time and attention to their subject it becomes of greater importance than ever that the clinical element should be kept constantly in view in the post-mortem room. For this reason I think it would be a misfortune if the post-mortem room were handed over to the pathological specialist as it is eminently the ground which should be occupied by those in close touch with clinical work, for the clinician learns by daily experience the needs and wants of those training to be clinicians. Of course, the aid of the bacteriologist, morbid histologist, and pathological chemist will always be required to supplement and confirm the post-mortem room findings. Such reports when received can be read out on a subsequent occasion and the case recapitulated and reviewed in the light of any additional information obtained. Naked-eye morbid anatomy as such can be learnt in the pathological museum now furnished with specimens which retain more or less perfectly their original colour, but morbid anatomy in relation to clinical work can only be satisfactorily learnt in the post-mortem room where the whole clinical and pathological aspects of disease can be coördinated. I decline to make a post-mortem examination where there are no clinical notes available, as I look upon it as almost waste of time.

Some 15 years' experience of post-mortem work has led me to adopt the following method of procedure. Before the post-mortem examination is made the clinical report is abstracted and the abstract is written on the blackboard in the post-mortem room. At the commencement of the examination this abstract is read out and the morbid changes which it is expected to find are outlined. The various morbid changes are then demonstrated and this is followed by a commentary on the pathological findings. Finally the symptoms are compared step by step with the pathological changes present. I need not say that the clinical diagnosis made during life is always regarded as the best that could be made in the circumstances, so as to permit of the freest possible discussion of details both clinical and pathological. Everybody with a tithe of clinical experience appreciates to the full the diagnostic difficulties that may arise in any case. Finally, it is almost needless to add that each post-mortem examination should be thoroughly made—that is, every organ examined, and for this reason it seems to me impossible satisfactorily to conduct more than one or at most two examinations at a time. In this demonstration I shall follow the order indicated above. Thus I shall first give a few clinical notes of the case. I shall then describe the specimens and make some pathological comments upon them. Finally, I shall endeavour to coördinate the morbid changes found after death with the symptoms present during life.

I.—SYPHILIS OF THE TRACHEA AND BRONCHI; STENOSIS OF A BRONCHUS.

The specimen came from a woman, aged 32 years, with an enlarged thyroid. A month before death when I saw her she had inspiratory and expiratory stridor, and diminished movement of the right side of the chest with a deficient air entry. Nothing abnormal was seen in the larynx. A diagnosis was made of pressure on the right bronchus, probably due to malignant disease. The specimen shows one large and several small ulcers in the lowest part of the trachea. There is also ulceration in the uppermost part of the left bronchus. The right bronchus is stenosed for about half an inch at its origin where it will only admit a small quill. The stenosis appears to be due to a sclero-gummatous process in the submucosa as no distinct evidence of past ulceration is visible. It does not therefore represent a more advanced stage of the ulceration seen in the left bronchus. The left lung was considerably larger in size that the right owing to hypertrophy. The left lung did not present any abnormal appearances. No evidence of syphilis was found elsewhere in the body.

Syphilis of the trachea and bronchus is rare. I have no recollection of meeting it before in the post-mortem room. Unless in association with laryngeal syphilis its site of predilection is in the lowest part of the trachea and upper part of the bronchi. If the disease extends to the bronchi it usually affects both of them. The reason of this localisation is unknown to me. Tuberculosis more commonly gives rise to ulceration of the trachea than syphilis and is found almost exclusively in association with laryngeal tuberculosis. There was no evidence of tuberculosis in the above case nor did the ulcers themselves appear tuberculous. The morbid changes met with here explain all the symptoms and signs present during life—the stridor, deficient air entry, &c. Perhaps I ought to have made a more exact diagnosis during life, and no doubt it would have been wise to have given iodides in a case where the nature of the disease was involved in some doubt.

II.—CASEOUS PNEUMONIA; TUBERCULOUS LARYNGITIS.

The specimens were obtained from a man, aged 25 years, who also had spinal caries and paraplegia (see Specimen VIII.). The pulmonary disease had lasted three months and was attended with cough and sputum, pyrexia, and some hoarseness. There were signs of consolidation at the right apex.

The right lung is solid almost throughout but the lesion is more marked towards the base. A lobular distribution is clearly evident in parts and some tubercles are present in the pleura. Scattered aggregated tubercles are seen in the opposite lung. The larynx shows a symmetrical ulcer on the posterior part of both cords and there is early but distinct pachyderma affecting the posterior laryngeal wall.

Caseous pneumonia, or broncho-pneumonia, represents one of the acute forms of pulmonary tuberculosis. Its distribution suggests very strongly an aerial infection. In this case there was no older lesion from which tuberculous products could have been aspirated as may happen in the more acute basic infection of the lung in some cases of apical pulmonary tuberculosis. There was, however, a focus of disease in the immediate neighbourhood—viz., in the tenth dorsal vertebra, and it is possible that the infection spread from this focus. It has been suggested, and I have seen at least one instance which seemed to bear out the view, that the lung may be infected from caseous bronchial glands in its neighbourhood without the latter directly communicating with the air passages. An interesting question might be raised as to the respective age of the laryngeal and pulmonary lesions in this case. The laryngeal disease certainly has the appearance of being the older but I have never yet seen a case of unmistakably primary laryngeal tuberculosis.

The symptoms are sufficiently explained by the morbid anatomy found, though here, as in many cases, the amount of disease present was much greater than might be anticipated from the signs. The laryngeal lesion produced hoarseness and if there had been any difficulty in the diagnosis of the nature of the pulmonary disease the examination of the larynx would have cleared it up. This bears out the statement that in cases of doubtful pulmonary tuberculosis it is well always to examine the larynx.

III.—MARKED ATHEROMA OF THE AORTA, CORONARY ARTERIES, AND SPLENIC ARTERY; GREAT HYPERTROPHY OF THE HEART WITHOUT VALVULAR DISEASE OR RENAL DISEASE.

The patient, a man, aged 50 years, had rheumatism when 24 years of age. He had presented steadily increasing symptoms of illness for the past seven years. Œdema of the legs appeared in August, 1906, and he gave up work in November. On admission in May, 1907, he was waterlogged. The apex beat was displaced outwards but there

was no murmur. His pulse was tense but there was no albumin in the urine. The heart was greatly enlarged, weighing 30 ounces. The valves were competent to the hydrostatic test. The kidneys were quite competent organs. There was advanced atheroma of the aorta, also of the coronary arteries and of the splenic artery. The left radial artery at the wrist appeared quite healthy. The liver showed marked nutmeg change. There were infarcts in both lungs.

The chief pathological feature of this case was the considerable cardiac hypertrophy due to vascular disease, the arterial disease being of the nature of atheroma (nodular arterio-sclerosis) of the aorta and some of the medium-sized arteries. A complete examination of the arterial system was, unfortunately, not made, but I think the marked arterial disease was sufficient to explain the cardiac hypertrophy. It has been stated that atheroma of the mesenteric area should be a very efficient cause of cardiac hypertrophy, but, unfortunately, only the splenic artery was examined in this case. The anterior coronary artery was much affected with typical atheroma and the left ventricle was markedly hypertrophied. The right coronary artery was similarly diseased but only in its proximal part. I could not detect with the naked eye any disease whatever in the cardiac muscle. The mode of production of the engorged pulmonary circulation, of the nutmeg liver, and of the dropsy is difficult of explanation unless there was functional regurgitation during life, yet neither the post-mortem appearances nor the clinical signs give any real ground for such an assumption. The morbid appearances otherwise corresponded well to the symptoms present during life. A long illness steadily progressing to a fatal termination is explained by a slowly progressing arterial disease.

IV.—Colloid Carcinoma of the Stomach.

This specimen came from a woman, aged 40 years, who had suffered from dyspepsia (pain after food relieved by vomiting, &c.) and wasting for six months and who presented anomalous nervous symptoms during the last few days of life. Death occurred in coma. The specimen shows a large mass of colloid carcinoma surrounding the pylorus and extending along the lesser curvature. There were no secondary deposits. The kidneys were healthy and the brain showed no abnormality.

Colloid carcinoma of the stomach is no doubt a degenerative form of other growths such as columnar carcinoma. I have rarely met with this form of growth of the stomach in the post-mortem room. There was no obvious explanation of the nervous symptoms present, so I suppose that they must be attributed to an intoxication produced by the new growth.

V.—Calculous Disease of the Kidney; Orbital and Frontal Sinus Suppuration; Limited Suppurative Meningitis.

A boy, aged 14 years, died from an acute illness lasting about 12 days. It began with a swelling about the left eye and then suppuration occurred in the orbit. The pus was let out from the orbit and also from the frontal sinuses. Four days before death vomiting took place, then optic neuritis, and twitching of the left side of the face and convulsions. Death occurred in coma. There was a suppurative meningitis limited to the right hemisphere and having its greatest intensity over the frontal pole and about the Sylvian fissure. The base of the brain showed no change. Some pus was found in the orbit and also in the frontal sinuses. The ethmoid cells were healthy. The right middle ear contained pus. The left kidney was small and the right was twice as large as the left. The pelvis and ureters of both kidneys were dilated and the bladder hypertrophied. (There was no stricture of the urethra.) There was a stone in the left kidney and a consequent destructive nephritis. The right kidney was hypertrophied but showed a slight degree of hydronephrosis and the microscope revealed some disease of the renal substance itself. Some pus was found in the pelvis of this kidney. The surface of the stone was smooth and its colour dark brown. It was very hard. On section it showed several concentric layers. It was thought to be a uric acid calculus but it did not give the murexide test. It was not a xanthin nor yet a calcium oxalate calculus. It contained a large amount of phosphate of sodium and nothing else of importance has as yet been found in it.

The exact path by which the meninges were infected was not evident unless it took place from the right frontal sinus yet there was no obvious disease in the right orbital plate; indeed, the intensity of the disease was situated on the left side where the orbital plate was thinned and discoloured. I did not look upon the suppurative lesion in the ear as at all a probable cause of the meningitis.

The urinary disease was an unexpected finding, the acute illness having obscured its manifestations. These lesions were assigned to calculous disease. Some time ago the left kidney had become more or less disorganised as a result of it and the right kidney hypertrophied in consequence, but this kidney did not escape from the effects of the calculous disease. This patient must have suffered at some time from cystitis, otherwise the thickness of the bladder walls could not be explained.

VI.—Terminal Tuberculous Meningitis; Pulmonary and Genital Tuberculosis.

A man, aged 24 years, was in a sanatorium under my care five years previously. He then presented signs of a limited lesion at the right apex and the disease had already lasted about a year. He was discharged greatly improved. He was admitted into the Leeds Infirmary for a tuberculous epididymitis of six weeks' standing and then the meningitis supervened and rapidly proved fatal.

The brain showed the characteristic lesions of tuberculous meningitis. The exudative element preponderated, but minute tubercles were visible. Limited tuberculous lesions were found at the apices of both lungs of a quite chronic form with excavation. The rest of the lungs were healthy with the exception of one or two small recent tuberculous foci. The connexion between genital tuberculosis and tuberculous meningitis has been emphasised by some writers. It occurred only twice in 110 cases of tuberculous meningitis in the records in the Leeds Infirmary, but the vesiculæ seminales were not by any means always examined. Tuberculous meningitis is a distinctly rare complication in my experience of pulmonary tuberculosis. This terminal meningitis has usually been of much shorter duration than the ordinary typical case in the child and its symptoms have sometimes been considerably masked. The symptoms of the case were readily explained by the morbid lesions found.

VII.—Apoplectic Cysts of the Brain.

(*a*) *A cyst occupying the region of the right lentiviulate nucleus.*—This specimen came from a patient, aged 32 years, who had diphtheria at the age of seven years, followed in three weeks by a left hemiplegia. This hemiplegia was said to vary in degree. The cyst (1 inch by ½ inch by ¼ inch) was lined by a delicate cyst wall and contained a clear fluid. There was no pigment about it. The convolutions and also the vessels of the left hemisphere were of smaller size than on the right side. There was old healed tuberculosis at both apices and some recent tuberculosis in other parts of the lungs. It is suggested that a blocking of an artery occurred as the result of embolism. This was followed by necrosis and afterwards a cyst formed. Embolism has been known to occur after diphtheria. I have seen at least one other example of a lesion in the neighbourhood of the internal capsule (but *not* involving it) produce a hemiplegia. In a recent instance occurring in a girl, aged 14 years, who died in advanced pulmonary tuberculosis, the softening was limited to the middle third of the lenticulate nucleus. An artery at the base of the brain was blocked. There were marked aphasia, paralysis of the right arm, and paresis of the right leg. Possibly the variation in the degree of the hemiplegia may have been due to variation in the fluid contents of the cyst.

(*b*) *A cyst situated in the right half of the pons.*—This came from a woman, aged 40 years, who died as a result of burns. It was stated that she had an apoplectic seizure some two or three years before her death but it left no permanent paralysis. The cyst measures 7 millimetres by 5 millimetres by 4½ millimetres and is multiloculated. There is no cyst wall. The basilar artery is extensively diseased and the cyst is believed to be the result of occlusion of a small branch of this vessel. It produced no definite symptoms during life beyond what is stated above.

VIII.—Vertebral Caries; Paraplegia; Cystitis; Pyelonephritis; Caseous Pneumonia; Tuberculous Laryngitis (see Specimen II.).

A man, aged 25 years, had constant pain in his back for about 21 weeks before his death and for the last 18 weeks he was unable to work. About five weeks before death he

had difficulty in micturition one evening and the next day he lost the power in his legs. On admission besides the pulmonary symptoms he had complete paraplegia. There was tactile anæsthesia up to the umbilicus with hyperæsthesia above it. He had retention of urine with overflow. Defæcation was involuntary and unconscious. The cremasteric reflex was present but the knee-jerks were absent. Babinski's sign (extensor response) was present. The urine was ammoniacal. There was much wasting of the limbs. The tenth dorsal vertebra was largely destroyed and a sequestrum was present in it. External pachymeningitis was present opposite to the diseased vertebra and it extended down for some three inches. The pia-arachnoid appeared quite healthy to the naked eye. Somewhat lower down there was a distinct softening of the substance of the cord extending over about an inch, but even here the markings of the grey and white matter could still be made out. A microscopical examination of the cord has not yet been made but the cord, hardened in formol-bichromate solution, shows the following changes when examined by the naked eye and a hand lens.

The lumbar, sacral, and coccygeal regions appear to be healthy with the exception of the lateral columns where there is a slight discolouration indicating some degeneration. In the lowest dorsal region no disease can be detected but a little higher up the markings become very indistinct and are finally not to be discerned. This extends for about three-quarters of an inch. Above this an ascending degeneration is distinctly visible and it gains in extent as the upper part of the dorsal and the cervical cords are reached.

In this case it is obvious that the disease commenced in the body of the tenth dorsal vertebra. It produced an external pachymeningitis. The disease spread, as it often does, through the pia-arachnoid without producing any very obvious changes in it, and the spinal cord was ultimately involved, perhaps owing to the action of toxins upon its structure.

This rough naked-eye examination shows that the motor and sensory paralysis was due to actual disease within the spinal cord itself. It would explain the presence of the cremasteric reflex (L 1 and 2 intact) and the present but altered plantar reflex (L 5 to S 2 intact together with degeneration in the lateral columns), but it does not account for the disturbance of the vesical and rectal functions (S 4 and S 5 intact). No doubt the microscopical examination will explain what the naked eye fails to detect.

In conclusion I hope that I have succeeded in emphasising the importance of studying morbid anatomy in close connexion with the signs and symptoms which it has produced during life. In this way alone can the full advantage be taken of the abundant opportunities afforded by the post-mortem room to obtain a more intimate knowledge of disease.

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An Address
ON
INHALATION.

Delivered before the Midland Medical Society.

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GENTLEMEN,—Perhaps we prescribe few things more ignorantly than an inhalation; the nature of the drug or drugs chosen we may take the trouble to indicate, but who amongst us knows the strength of the actual inhalation or what change must take place in that strength ere it reach the lung alveoli. Moreover, our directions as to the method of employment are often vague: how much and how hot should be the added water, how long should each treatment last, how often should it occur. The fact is, we are half-hearted in our belief of its efficacy and so take but little interest in its administration. I think the advent of the throat surgeon is the chief cause of this; we can see, without much thought, the result of his labours and so gladly hand over to him conditions we previously treated by the slower and more doubtful method of inhalation. If this were all I should not greatly complain. But unfortunately we hand over not only the local but the constitutional treatment; this means—and small blame to the surgeon—that the constitutional treatment is to a large extent neglected, with the consequence that the patient remains for years in the hands of his local ameliorator till such time as his *vis naturæ* may choose of herself to bring about a betterment of his constitution. For the greater proportion of these naso-pharyngo-laryngo-tracheal conditions are constitutional. The local trouble is merely the maximum expression of a dyscrasia which exists throughout the body and can there be detected by the painstaking physician, though the symptoms may be so vague and indefinite that they pass unnoticed by the patient himself.

The real source of the trouble is often not in the local mucous membrane but in the nutriment supplied to this by blood and lymph; perhaps these fluids are themselves deficient in nutriment, as in the anæmias, the gouty diathesis, or chronic renal disease; or, though not deficient in nutriment, they contain irritating material, as again in gout and renal disease or in gastro-intestinal catarrh, these producing a hyperplasia of connective tissue throughout the body, one of its local expressions being hypertrophic rhinitis, pharyngitis, or laryngitis; or, though the fluids themselves are fairly healthy, the vaso-motor control is imperfect and the tissues lie too long soaked in venous blood and used-up lymph; or, lastly, there is feeble action of the governing system, there is nervous debility or acute prostration, the stimuli have lost their energy and directness of command, with a resulting inertness and flabbiness of the stimulated tissue, a granular and œdematous pharyngitis resulting. The special surgeon may say that, while removing the local trouble, he in no way forgets the constitutional dyscrasia and is as competent to treat it as the physician. He may be, though I do not think he is; but whether he be so or not his patient does not believe him to be so. Not seldom I have had patients who have been to such a surgeon, have reaped much local benefit at his hands, have trusted greatly in him, and have persistently continued the local medicament he prescribed, but have omitted altogether, or very soon, his general treatment, supposing it was not likely to be of much benefit as it was "not in his line." This is one of the curses of specialism.

The layman supposes that if there is any local anatomical *abnormality* then the local malfunction must necessarily be due to this. Are we always careful to point out that though it may increase the malfunction it is very rarely its cause? Do we not too readily allow the sufferer, eager for relief, to submit to the removal of the abnormality with but a temporary improvement, perhaps none at all, or, may be, speedily followed by an exacerbation of his condition? Do we always insist upon explaining that his abnormality existed years before his malfunction, was perhaps even congenital, and that if only the malfunction can be otherwise remedied he will again cease to observe it? Yet I am convinced that in most of these cases the correct treatment is to endeavour to relieve the constitutional condition which has caused the local trouble, and *then*, if you like, remove the cause which has rendered the locality peculiarly susceptible to the dyscrasia. And why? First, because it is never right to allow a patient to continue with *any* dyscrasia if it can be remedied; it is our duty to remove him from this danger zone, where he is constantly liable to attack, and place him in a condition of good natural resistance. Secondly, if an operation should then prove necessary, it is more likely to prove successful than if attempted when he is functioning badly. Even in war we try to remove our wounded from the danger zone to the field hospital before we operate, and, I understand, our civil surgeons prefer to wait till the patient be in the best possible condition physiologically before they undertake a serious operation. Thirdly, we must remember that in most of these nasopharyngeal operations a raw surface is left bereft of mucous membrane. We hope that healthy mucous membrane will in time cover it. What chance is there of this if the neighbouring mucous membrane be *un*healthy? If it should succeed in covering it with unhealthy membrane like itself the old condition will soon reassert itself, but more probably a scar tissue will be left as after a skin burn and, like this, incapable of taking on healthy action, so that the result in either case is merely temporary amelioration, the patient becoming a lifelong visitor to his surgeon.

It may be objected to me that results are not so gloomy as my remarks would suggest. I must say they thoroughly bear out my own observations, but then, perhaps naturally, I am more likely to see the surgeon's failures than his successes. I will take, therefore, the records of the surgeons themselves. Let us take nasal asthma.

Out of 313 cases of nasal asthma[1] recorded by Hack, Hering, Lublinski, Sommerbrodt, Bosworth, and Roé, 150 are reported by these surgeons as cured and 40 others as improved. But I think we must be rather guarded in accepting these numbers; anyone acquainted with hospital statistics knows how rosily the surgeon anticipates the distant future, provided the immediate result be good. One of the authorities I have quoted—Roé—accentuates this view by pointing out that of his 35 cures 17 have remained well for more than one year; or, to put it my way, 18 of his 35 cures relapsed before the year was out. If his statement should prove true of the others then the cures would only reach 25 per cent. But let us put them at 33⅓ per cent. A method which cures for over a year one-third of the cases of nasal asthma is one which we must respect, for this result is a good one. Yet the most enthusiastic of these surgeons admit that there is one grave drawback to operative procedure: some of the cases, and not seldom some of the slighter ones, are made worse. This is a very serious objection and it is one that impresses itself most upon my mind, for it is just these which come back to the physician.

The physician's methods, if slow, ineffectual, and undramatic, have, at any rate, no such drawback. That they are slow I grant, and, therefore, to the gasping hurry of this twentieth century must seem undramatic. But I cannot admit the ineffectual. I certainly think he can claim one-third of his cases as cures of more than one year's duration. I believe he could say one-half. But it is also quite true that some which he cannot cure temporarily or permanently will speedily be cured by the surgeon. I do not think the proportion is large, perhaps 10 per cent. They are the cases where the local cause is a gross one and the constitutional enters little, if at all. I have said the physician's method has no drawback. It has, on the other hand, the great advantage of putting the patient on a healthy basis generally. Indeed, often the constitutional is the only treatment needed. Let me instance a case. A mother brought her little boy, aged four years, complaining that he daily suffered from violent attacks of sneezing which left him prostrate. I concluded that he had nasal asthma, but found he had also gastro-intestinal catarrh and nervous irritability. I did not examine his nose nor did I locally treat it, but cared for his body generally. He came again with his sneezing but little better, but I still refused to heed it and his mother took him away sorrowfully. By the next visit she had evidently come round to my view, for she said nothing about the sneezing, contenting herself with remarking that the other symptoms were greatly improved. The tables were turned; it became my duty now to inquire minutely after the sneezing and to find that, though he still occasionally sneezed, yet all the paroxysmal severity had vanished. Nor did it recur during the few remaining months she thought it necessary to bring him to me. But what I particularly wish to point out is, that the result was not only a better nose, but a better child altogether—body, mind, and spirit—than when he first came to me, the better nose being merely an incident in the general amelioration.

Another instance. A man, aged 42 years, came complaining of a troublesome, racking cough which kept him awake, wore him out, and was accompanied by thick yellow, blood-stained phlegm. His lungs were healthy but his pharynx was velvety, with œdematous granulations. I found he was alcoholic. His liver was firm, large, and congested; his heart was dilated and feeble; and his kidneys passed urine excessive in quantity, of low specific gravity, and with a too small excretion of proteid waste. He had slight general anasarca. I gave him some chlorate of potash lozenges to satisfy his mind but otherwise disregarded his throat, feeling sure this would recover long before his heart and moral fibre were fit to run alone. And that is what has happened. At his last visit his cough was not worth mentioning and he had hoped I should bid him good-bye, but his heart was only slightly better, though the anasarca had gone, and he still looked at me with the pitiful eyes of moral instability. So I continue to keep him in tow with threats of pharyngeal relapse till heart-muscle and nerve-cell are stronger.

What has all this to do with inhalation? A great deal, I think. Inhalation often fails, just as operative procedures do, because we trust to it alone; and often the local disease can be remedied without the aid of either. They are both limited in their scope, and are but the handmaids of constitutional measures. If the lesion be gross and limited—e.g., a polypus, operation is the better maid; if it be widespread, though mild, inhalation is to be preferred. In thus pointing out how limited its scope and how often it is needless, I think I have said one-half of what I want to say on this subject of inhalation.

It is not only surgical methods which have improved during the last 40 years. The methods of inhaling have made equal strides. Perhaps the greatest was the introduction of atomisation which enabled us to do away with the relaxing effect of steam. Another great development is the institution of inhalation chambers. If these rooms, full of medicated air, could only be generally distributed, I believe inhalation would at once take a front rank amongst our curative efforts. At Marlioz, close to Aix-les-Bains, is a large room of this kind, some 60 feet by 30 feet, supplied with tables, chairs, and lounges, where invalids can go and chat, stroll up and down, dream in easy chairs, read books of their own or the news of the day in the papers and periodicals on the tables, write their letters or prosecute their studies. Each half hour or so everyone is turned out to wander a few minutes in the beautiful park whilst the room is thoroughly ventilated. In this way the patient can inhale for hours a day, without any effort on his part, the medication necessary for his nose, his throat, his windpipe, and his lungs. Allevard[2] is perhaps the headquarters of this method. As long ago as 1852 Dr. Niépce noticed that the patients used to go up to the galleries of the establishment, where the sulphuretted hydrogen was in greatest percentage, as they found the atmosphere most alleviating there. Hence in 1852 he devised inhalation rooms, both cold and hot. There are seven cold rooms, each 20 feet high by 20 wide by 24 long. In the centre of each is an ingenious apparatus for forming a huge spray of the water. The sulphuretted hydrogen is thus disengaged and mixes with the air. Before being sprayed the water contains 24 volumes of sulphuretted hydrogen per 1000, but when it leaves the room it only has 1 per 1000. The *séances* here, too, last half an hour. At their commencement there is very little H_2S in the air, but before they end this mounts up to 19 volumes in the 1000. Four other rooms of the same size are set apart for warm inhalation. There is the same central arrangement for distributing the gas. Around it the seats arise in tiers. Beneath each tier the floor is perforated and through the perforations immense volumes of H_2S vapour at from 80° to 86° F. pour into the room. Patients take off their outer garments and sit in waterproof gowns for from 20 to 50 minutes. They then rest, dressed, for from 15 to 20 minutes in a room of intermediate temperature and finally harden off in one of the cold rooms. They, in fact, give their respiratory lining membranes a sulphur Turkish bath. This seems to me to be the method of inhalation *par excellence;* I cannot see why it should not be adopted at, say, the sulphur spas of Askern, Harrogate, Llanwrtyd, and Strathpeffer. I am sure the British would take to it kindly and many would rejoice at not having to leave Great Britain. The only instance that I know of a similar installation in England is the creasote room at Brompton. Dr. Hector W. G. Mackenzie has kindly written me this description of it: "The room at Brompton is a fairly large one, about 12 feet by 16 feet and 12 feet high. The creasote vapour is produced by heating about two ounces of coal-tar creasote in a metal dish over a lamp placed on the floor. The room is made, as far as possible, air tight. The patients put on cotton overalls and wear eye-protectors. A covering is also worn

[1] L'Asthme d'Origine Nasale, de son Traitement par les Eaux d'Uriage. Par François Teulow-Valio, M.D. Gustave Firmin et Montane, Montpellier, 1898.

[2] Allevard is a little manufacturing town of 3000 souls on a small branch on the south side of the main line between Chambery and Grenoble, 1500 feet high. Its water contains 2·4 volumes per cent. of sulphuretted hydrogen gas. Apart from the H_2S the water is a very pure one; in fact, it is nearly identical with the sulphur water of Llanwrtyd in Brecknockshire, a village 700 feet above the sea. Both have but little smell or taste of sulphuretted hydrogen, and both are largely drunk by the patients. But whereas at Allevard inhalation is the chief means of medication, at Llanwrtyd this means does not exist. Moreover, Allevard has a theatre with a play every evening, and a very fair band plays twice a day. Llanwrtyd holds out no such attractions. Allevard has sunshine, Llanwrtyd beauty. Llanwrtyd has the better baths; both have excellent hotels.

over the hair. It is advisable to put cotton-wool in the ears. The patients sit on stools or chairs. The lamp is not placed under the creasote until the patients are settled in the room, so that they get the vapour gradually mixed with the air. The average duration of a *séance* is half an hour; at first shorter, afterwards longer, possibly an hour or an hour and a half. The treatment is repeated as a rule every day but occasionally I have had it given twice a day. Bronchiectasis is the only condition which seems to derive benefit from it, but in that the benefit is usually very marked."

Coming now to the ordinary local inhalation, here again we see things undertaken much more thoroughly abroad. Each patient has his own private coupé, but the water, air, or steam is supplied to all from one source. Speaking generally, at the sulphur spas of Challes, Marlioz, Allevard, and Uriage pulverisation, or as we call it atomisation, of the water is the only method used. There are three varieties. The first is called "*brisement*," where the water is broken up by impinging on a metal surface. It is previously forced into a sphere under a pressure of 15 to 20 atmospheres; thence it comes with great force through a very fine agate or ruby nozzle with a lumen of one-fifth to one-tenth of a millimetre in diameter. The metal surfaces on which this fine jet forcibly impinges are of three kinds:—(*a*) A tambour. This is a small hollow cylinder about one and a half inches long and three-quarters of an inch in diameter. This cylinder is hinged on a metal stalk which in its turn is fixed into a solid earthenware foot some three inches in diameter. The jet enters one end of the tambour, is so directed that at the centre it impinges on the concave surface, is at once broken up, and issues in a cloud of the finest dust at the other end, the circumference of this end cutting off the outer portion so that a comparatively small, fairly cylindrical column of atomised water having a considerable velocity is the result. This tambour form is used for throat and bronchial inhalation (oral), as the whole of the column can enter the mouth without wetting the face. (*b*) A palette. This is a small disc of metal which replaces the tambour. It has a spray which radiates more widely than that from the tambour; it is used for skin eruptions, conjunctival or nasal troubles, and can be placed close to the diseased spot. (*c*) A tamis, or fine meshwork of platinum, through which the jet forces its way and is broken up in so doing. The resulting spray is a much coarser one than by either of the other methods and as far as I could see is not much used.

Another variety of inhalation is that where the fluid is drawn up and atomised by a jet of steam, a warm cloud of particles resulting; this is used a great deal at Challes and Uriage. Lastly, there is the variety so commonly made use of on a small scale in England where an *air* jet draws up and atomises the fluid. But with us the force of the air jet depends upon a small rubber bellows worked by the patient himself; at foreign spas this work is done for everyone by a common force which is always acting. For sulphur waters this method is not available, as the jet of air speedily decomposes them. Here again, in the matter of these local inhalers, we see how abroad they make things as easy as possible for the patient. It may seem a small matter whether you blow your own bellows or not; and if the inhalation is to be for five or ten minutes only perhaps it is not of great importance. Yet we must remember that our inhalers are invalids to whom every exertion, mental or physical, is something of an annoyance.[3] But it is just these prescriptions of five and ten minutes which seem to me to be a mere playing with this form of medication, a species of quackery. What can you expect from a medicament which only acts for $\frac{1}{70}$th of the day. The inhalation bathes an excreting, not an absorbing surface, so that we cannot suppose that its action can continue for long after the inhalation has stopped. Cells so essentially scavenger-like as are the ciliated cells of the bronchi can scarcely be expected to pass on the medicament to the deeper tissues with any great energy. When I prescribe an inhalation I always try to get the patient to inhale for three hours daily, and if I fail to get a promise of one hour at least I drop it altogether for some other method of treatment. During inhalation respiration is deeper than with ordinary breathing. It should, therefore, always be done in pure air. I always endeavour that it shall be used out of doors. There are occasions when inhalation is used as a palliative only—e.g., as a sedative to cough before going to bed. Here, manifestly, if you achieve palliation it matters not how short a time the treatment has lasted. But when more far-reaching curative effects are desired then the longer periods are necessary.

I do not suppose any one of us questions the efficacy of treatment by inhalation when we have to do with nose, pharynx, larynx, or main bronchi, but many are sceptical as to its influence on diseased conditions of the alveoli or fine bronchioles. I think this scepticism is largely the result of our want of thoroughness in carrying out the treatment. When I have succeeded in getting it done for three hours daily for two or three weeks the improvement is usually so marked that there is no difficulty in persuading the patient to continue for two or three months. If the inhalation be a gaseous one—e.g., H_2S—I do not see how we can avoid the conclusion that diffusion will carry it right into the alveoli and that it will be there taken up into the blood along with the oxygen. But when the inhalation consists of an atomised liquid I admit the result is more doubtful. It will largely depend upon the fineness of the atomisation and upon the weight and volatility of the drugs used. In any case a large proportion must necessarily be deposited in the upper air passages. It would be unwise to use drugs which are not largely volatile at the temperature of the lungs; hence we find the volatile oils are favourite drugs for inhalation—e.g., the terpenes, eucalyptus, balsams of Peru and tolu, oil of cade, and betul. But we must remember that the tidal air is only one-thirteenth of the total air in the lungs; one half of this comes back again more or less unchanged; hence the inhalation when it reaches the alveoli can only be one twenty-fifth as strong as when it enters the mouth. When we consider the amount which has been deposited on the way we shall probably be right in saying that the percentage of active medicament which enters the alveoli cannot be more than one-fiftieth of that which enters the mouth. I am not saying this to discourage inhalation, for I believe it has a future; but there is no surer way of damning a therapeutic method than by expecting from it more than it can possibly give. On the other hand, when we call to mind the immense difference a comparatively minute change in the ordinary air makes in our health we cannot help believing that inhalation, properly employed, is a powerful therapeutic measure. But its power resides not in the percentage strength of the inhalation but in the vast quantity of it inhaled; that is, in the long duration of its employment.[4]

[3] I have tried, with the assistance of Messrs. Philip Harris and Co. of this city, to devise some plan for obtaining this constant pressure on a small portable scale suitable for one person. The city water pressure was evidently altogether insufficient for the purpose, and we found it practically very difficult to obtain sufficient pressure by placing weights on the open end of a cylinder which communicated with the fine nozzle. Either the cylinder was so small that its contents were speedily exhausted or else the requisite weight was so great as to be very cumbersome and impossible to be manipulated by the patient. A motor of some sort—a steam engine is used abroad—seems to be the only solution. Still, I trust it is not too Utopian to hope that such an apparatus may be placed in each large town where patients could resort, each taking his own nozzle and medicament, to be attached to the central power installation for a small fee per *séance*.

[4] The amount of air inhaled daily by an average man is no less than 10,000 litres. If we take the absolute amount of water vapour in the air we find that a considerable change in this, which acts as a diluent to the gases of the air, can make a considerable difference to the intake of oxygen—e.g., at Madras a man inhales 80·7 kilogrammes of oxygen a month; at London or Brussels 87·3; and at St. Petersburg as much as 90·4 kilogrammes—i.e., one-eighth more oxygen at St. Petersburg than at Madras; or, *anglicé*, in a year he would inhale 270 pounds more oxygen at St. Petersburg than at Madras.

A STATISTICAL STUDY ON THE POLYMASTIA OF THE JAPANESE.

BY DR. TEIZO IWAI,

PHYSICIAN-IN-CHIEF OF THE JAPAN RED CROSS HOSPITAL; ATTACHED TO THE SUITE OF H.I.H. PRINCE FUSHIMI REPRESENTING HIS MAJESTY THE EMPEROR OF JAPAN.

ALTHOUGH there is mention in the seventeenth and eighteenth centuries of a few scholars in Europe having made a study of polymastia it was not until the latter part of the nineteenth century that the subject began to be handled in a scientific manner, and only in the last 15 years can we say that it has made marked progress. Realising that the subject has a close relation not only to practical medical science but also to anthropology, comparative anatomy, and embryology, and that its study has been neglected hitherto by our own investigators, I venture to

present the result of my own investigation up to the present time.

HISTORY OF THE STUDY OF POLYMASTIA IN JAPAN.

In November, 1893, I began the first statistical study of polymastia made in Japan, and published the result two years later in the *Mitteilungen der Medicinischen Gesellschaft zu Tokyo*.[1] Previously to that, so far as I know, only two reports had been made in Japan; one was entitled "My Observation on Supernumerary Mammary Glands," by Dr. T. Kuroiwa, Director of the Obama Hospital, Fukuiken,[2] and the other entitled "A Remarkable Case of Supernumerary Mammæ," by Dr. K. Satō of the Kōseikwan Hospital, Nagoya.[3] Both articles, however, being mere reports on a single case, all the valuable statistical reports on the subject have only become available after the above-mentioned publication of mine in March, 1896, and are more or less based upon it. Therefore a mention of the relations between myself and those scholars will constitute by itself a history of the statistical study of polymastia in Japan.

The report of Dr. Kuroiwa just mentioned, together with a figure, is referred to in Dr. R Wiedersheim's "Der Bau des Menschen" (3te Aufl., 1902), but it is to be regretted that he mentions only the name of Dr. K. Horiuchi, who sent him the article, instead of that of the original author, Dr. Kuroiwa. Dr. R. Bonnet also mentions in his work[4] Dr. Horiuchi's name instead of that of the author himself, showing that he was misled by Dr. Wiedersheim's book. The first report I made on the subject fortunately attracted the attention of scientific men in Japan, so that there is hardly a person studying the subject who does not refer to it. The following are some of the extracts from various writers.

In July, 1896, Dr. K. Katayama, professor in the Tokyo Imperial University, in a report on four cases of female polymastia under the treatment of Dr. I. Honda of Kosaka, Akitaken,[5] says that "the readers are advised to refer to the report made by Dr. T. Iwai." In December, 1897, Dr. K. Satō[6] said in his second report: "After I made my first report Dr. Iwai's more minute report appeared, and I began to pay more attention to the subject, and came to the conclusion that polymastia is not rare among Japanese women." In May, 1899, Dr. S. Otani, professor in the Medical School of Nagasaki, assisted by Dr. I. Amemori and Dr. T. Hara, made a minute statistical report.[7] At the outset he said: "Since Dr. Iwai has written an article on polymastia it is unnecessary to say anything further." And at the conclusion, following my method of comparison, he gives a statistical table under six headings which coincides with the result I stated in my first report and thus sufficiently proves the correctness of the same. In April, 1900, when I read papers at the annual meeting of the Tokyo Medical Association on the Supplementary Report about Polymastia,[8] Dr. H. Uno spoke of the case of a woman at Yokohama, who, after having given birth to a child, was greatly annoyed by having milk dripping from the supernumerary glands she had in both axillæ. Dr. T. Irisawa, professor in the Tokyo Imperial University, made a statistical report on the cases which came under his observation and in general it accorded with my own. Dr. K. Kashida, who made a report, differing from Dr. Otani's and my own, says that in the greater number of his cases the glands were found directly under the normal breasts. In the spring of the same year Dr. E. Baelz told me about 48 cases that he had seen; and I found that his observation coincided in general with my own. In May, 1902, Dr. Otani, assisted by Dr. M. Satō, made a supplementary report on polymastia.[9] In its introduction he says: "Among them, we might say that Dr. Iwai's report is most complete and valuable for those who may study this subject." This report of Dr. Otani is on the Relation of Tuberculosis to Polymastia, of which I have the honour to be the first discoverer, and I felt great satisfaction in finding that Dr. Otani's opinion coincided in general with my own; this, however, I discuss more minutely in my essay entitled the "Relation of Polymastia to Tuberculosis," 1907. In October, 1904, Dr. K. Satō published a report entitled "An Extraordinary Case of Recurrence of a Supernumerary Gland after its Removal by Operation and the Results of Some Investigations concerning the Subject of Polymastia,"[10] in which he referred to the relationship between polymastia and tuberculosis which I had formerly maintained. He also stated therein that out of 29 cases, subjects of polymastia, he found 19 actually affected by pulmonary tuberculosis or suspected to be tuberculous and began at last to believe that he could safely conclude that "those who are subjects of polymastia are more liable to be affected by tuberculosis."

POSITION OF POLYMASTIA AND STUDY OF ITS PIGMENTATION.

According to my observations the position of supernumerary glands is commonly in our country in the pectoral region, and most commonly they are found in the region II. indicated by Dr. Williams, which is above and external to the normal breasts along the front edge of the axillæ (see Fig. 1).

FIG. 1.

Usual position and shape of supernumerary glands as occurring among Japanese women.

Medical experts of the West generally locate these supernumerary glands below the ordinary mammæ, thus differing from the foregoing description. Out of 511 subjects of polymastia whom I examined I found these glands in 441 *above* the normal breasts, giving the ratio of 86·30 per cent. of the total number, while in only 48, or 9·39 per cent., of the total number I found them *below* the normal breasts, and in the remaining 22, or 4·30 per cent., both above and below. Dr. Otani's and Dr. Baelz's reports were to the same effect—that in the majority of subjects of polymastia the glands were found *above* the normal breasts.

Contrary to the above, Dr. T. Watanabe, captain-surgeon of the Imperial Japanese army, when making an examination of 5452 conscripts in the vicinity of Utsunomiya, compiled statistics of polymastia at my request and found 107 subjects of polymastia, of which 102, or 95·32 per cent., had these glands below the normal breasts, and four persons, or 3·74 per cent., above, and the remaining one, or 0·93 per cent., had them both above and below. Also, according to

[1] Vol. x., No. 5, March, 1896.
[2] Tokyo Medicinische Wochenschrift, No. 692, July, 1891.
[3] The Kōseikwan Medical Magazine, vol. ii., Nos. 11 and 12, December, 1895.
[4] "Die Mammaorgane im Lichte der Ontogenie und Phylogenie" in Markel and Bonnet's Ergebnisse der Anatomie und Entwickelungsgeschichte, 1892.
[5] Mitteilungen der Medicinischen Gesellschaft zu Tokyo, vol. x., No. 14.
[6] The Kōseikwan Medical Magazine, vol. iv., No. 6.
[7] Mitteilungen der Medicinischen Gesellschaft zu Tokyo, vol. iii., No. 9.
[8] Ibid., vol. xiv., No. 12.
[9] Ibid., vol. xvi., No. 10.
[10] Ibid., vol. xviii., No. 20.

Dr. Kashida's observation, though he does not give the exact figures, they were found in most cases below the normal breasts. But when I compare the results of these two observers, Dr. Watanabe and Dr. Kashida, with the results of my own observations on several cases I am rather inclined to wonder at the former. According to Dr. Leichtenstern's observation 91 per cent. of these glands are found on the pectoral region, and most of them (94 per cent.) are below the normal breasts; and when they are as rarely found above (3 per cent.) the position is invariably outside of the normal breasts towards the axillæ. Dr. Hennig described the location of these glands in the pectoral region as follows:—

Below the normal breasts	103
Above the normal breasts	3
Outer side of, and at the same height as, the normal breasts	3
Inner side of and lower than the normal breasts	37
Directly under the normal breasts	9
On the middle-line below the pair of normal breasts	5
Outer side of and lower than the normal breasts	1

Dr. Testut, taking 100 cases mentioned in the record made by Dr. Leichtenstern and Dr. Laloy, classified the position of these glands in the pectoral region as follows:—

Below the normal breasts	93
Same height as the normal breasts	2
Above the normal breasts	4
Both above and below the normal breasts	1

Dr. Bonnet says that in most cases the glands are found in the pectoral region below the normal breasts and chiefly on the inner side of them. Sometimes, but rarely, they are found above and outward of the normal breasts, or near the axillæ, or even in the axillæ themselves.

Apart from the question whether they are above or below the normal breasts, I have observed that the number of those on the left is greater than those on the right. Out of 936 of these glands I have seen 481, or 51·38 per cent., on the left, and 454, or 48·50 per cent., on the right, and only one, or 0·10 per cent., on the median line. Upon this point both Japanese and European authorities seem to agree, as will be seen from the following statements. Dr. Wiedersheim says that whenever supernumerary glands are more numerous on one side they are generally on the left side. Dr. Leichtenstern writes that out of 50 cases 34 had them on the left and 16 on the right. Dr. Ammon mentions 85 cases on the left and 32 on the right that have come under his observation. Dr. Watanabe, alone differing from all the above mentioned, states that out of 134 supernumerary glands which he had seen 64 were on the left and 70 on the right.

Supernumerary glands on the midway line are very rare. Dr. Gorré and Dr. Percy mention a case of a woman and Dr. Bartels of a man. I once saw a male tuberculous patient, 36 years of age, who had such a gland on the linea alba nine centimetres below the point of the xiphoid appendix of the sternum and 15 centimetres below and inward of both normal breasts. Although Western authorities mention cases in which these glands are found on the shoulder, back, thigh, labia majora, &c., I have not been able to find them anywhere but on the chest and abdomen. Dr. Leichtenstern classifies 105 cases of polymastia with regard to the position as follows:—

Pectoral region	96
Axilla	5
Back	2
Shoulder	1
Outer side of thigh	1

Dr. Hennig gave the following table:—

Pectoral region	105
Axilla	9
Shoulder	1
Back	5
Inguinal region	3
Outer side of thigh	3
Labia majora	1
Ovary	1

Dr. Baelz has told me of a European gentleman who had a well-developed accessory mammilla on the inner side of the left thigh and another on the pectoral region near the left axilla. Dr. K. Satō, in his second report, writes of having observed a woman, 23 years of age, who had given birth to three children and had distinct mammary glands in both axillæ and under the skin of the left upper arm, which during the pregnancy were swollen like normal breasts. As the existence of the glands on the upper arm is exceedingly rare, and as far as I know has not been found in medical literature, I have here reproduced the photograph of the same with his permission.

FIG. 2.

Supernumerary glands under the skin of the left upper arm and the right axilla, taken from Dr. K. Satō's second report.

The following is a table compiled as the result of my examination of 936 cases of polymastia.

Total number of polymastiæ 936.	Male 250	Above normal breasts 190	Left	92
			Right	98
		Below normal breasts 60	Left	37
			Midway	1
			Right	22
	Female 686	Above normal breasts 662	Left	338
			Right	324
		Below normal breasts 24	Left	14
			Right	10

The following is a table compiled from Dr. Otani's reports made at two different times:—

Total number of supernumerary glands 610.	Male 197	Above normal breasts 152	Left	86
			Right	66
		Below normal breasts 45	Left	30
			Right	15
	Female 413	Above normal breasts 388	Left	201
			Right	187
		Below normal breasts 25	Left	12
			Right	13

Again, the results of Dr. Watanabe's observation upon the conscripts are as follows:—

Total number of supernumerary glands 134	Above normal breasts 7	Left	2
		Right	5
	Below normal breasts 127	Left	62
		Right	65

By putting the above three tables together we obtain the following result:—

Total number of supernumerary glands 1680.	Male 581	Above normal breasts 349	Left	180
			Right	169
		Below normal breasts 232	Left	129
			Midway	1
			Right	102
	Female 1099	Above normal breasts 1050	Left	539
			Right	511
		Below normal breasts 49	Left	26
			Right	23

Thus, we find the number of supernumerary glands above the normal breasts is greater by far than those found below, the former being 90·03 per cent. while the latter is only 9·96 per cent. As to the position of right or left, there is no doubt that the greater number occurs on the left rather than on the right, showing the ratio of 52·76 per cent. to 47·23 per cent. respectively.

In regard to the pigmentation of areola, I believe that in the great number of cases of polymastia in males the pigmentation is more marked than in females; and again, regardless of the sex, those situated below the normal breasts show more pigmentation than do those above. Dr. Irisawa, confirming my observation, states that such glands found below the normal breasts show more pigmentation than do those above. In regard to the pigmentation in cases of polymastia I have carefully analysed 399 and obtained the following result:—

TABLE I.

Total number of supernumerary glands 399.	Male ... ... 132 ...	Pigmented ...	63	...	47·72%
		Normal	49	...	37·12%
		Unpigmented	20	...	15·15%
	Female ... ... 267 ...	Pigmented ...	64	...	23·97%
		Normal	167	...	62·54%
		Unpigmented	36	...	13·48%

TABLE II.

Total number of supernumerary glands 399.	Above normal breasts ... 345 ...	Pigmented ...	79	...	22·89%
		Normal	216	...	62·60%
		Unpigmented	50	...	14·49%
	Below normal breasts ... 54 ...	Pigmented ...	48	...	88·88%
		Unpigmented	6	...	11·11%

Dr. Otani and others hold that there is very little connexion, if any, between pigmentation and pregnancy and say in proof thereof that there was a woman who gave birth five times yet had no pigmentation in the areola; and again, they say that among the males there are comparatively more with pigmentation than among the females. Nevertheless, there can be no doubt, according to my own observation, that during pregnancy the areola of supernumerary mammary glands becomes darker in colour.

RATIO OF POLYMASTIA IN JAPAN AND ITS RELATION TO SEX.

The ratio of cases of polymastia found in Japan varies not only according to the investigators but even the same authors do not, or cannot, always give the same rate. As shown in the accompanying table, Dr. Otani gives in his first report a higher rate of cases than does my own first report, and again his second report shows a rise of ratio over the first. My own reports, made at several different times, show a gradual rise in ratio every time. This is due, I trust, to the better method applied in the investigation and the skill attained through more extended practice. The total number of persons (female sick nurses, students, patients, and so on) examined by me at several different times was 11,789. Out of this number 443 were subjects of polymastia, or a ratio of 3·75 per cent. of the total number. Dividing the total number between the sexes I found out of 6803 males 139 (or 2·04 per cent.) were subjects of polymastia, and out of 4986 females I found 304 (or 6·09 per cent.) were subjects of polymastia. Adding to these 17 males and 65 females recorded in my note-book gathered from various sources we have in all 156 males and 369 females, or a ratio of 2·36 females for 1 male. The total number of subjects examined by three physicians at different times (twice by Dr. Otani, once by Dr. Watanabe, and others by myself) amounts to 32,922, out of which 917 (or 2·44 per cent.) were subjects of polymastia. When we divide this number between the sexes, out of 22,577 males there were 380 (or 1·68 per cent.), while out of 10,345 females there were 537 (or 5·19 per cent.), showing that the ratio of polymastia in females is three times larger than that in males.

I believe that we can safely take the above figures, obtained through various investigations by different persons, as the fixed standard ratio of cases of polymastia in Japan. Dr. Leichtenstern states that polymastia is found at the rate of 1 in 500 persons; and, further, he declares that the number is equally frequent among males and females, but out of 13 cases which he cited nine were males and four were females. Dr. Bonnet obtained 92 cases from various authorities and divided them as follows: 22 males and 70 females. Out of 262 cases gathered by Dr. Hansemann, 81 were males and 104 were females. Nothing is said of the remaining 77 cases in regard to sex. Dr. J. Mitchell Bruce, who was the first to take note of polymastia in males, found out of 3956 persons examined by him in three years 61 cases, or a ratio of 1·54 per cent. Dr. Bardeleben in his first report gives the rate of males as 9·1 per cent. and that of females 4·8 per cent.; but in his later report, made after he examined the conscripts, he raised the ratio of males to over 14 per cent. Dr. Ammon found 114 subjects of polymastia out of 2189 conscripts examined in Baden, Germany, which makes a ratio of 5·2 per cent. Out of the 114 subjects, 66 persons (3·01 per cent.) had distinct supernumerary mammary glands, while the remaining 48 persons (2·19 per cent.) had considerably less distinct ones. Dr. Watanabe found, as stated before, 107 subjects (1·96 per cent.) out of 5452 conscripts examined in the vicinity of Utsunomiya.

Recently I met with a wonderfully high ratio of polymastia when I examined 159 nurses. Out of that number I found 43 subjects (27·04 per cent.) of polymastia. Among them 16 persons (or 10·06 per cent.) had very distinct ones, while the remaining 27 (or 16·98 per cent.) had less distinct ones. Again, out of 100 candidates (males only) for entrance to the school of the Formosan Association, there were 17 subjects of polymastia, making a ratio of 17 per cent.

NUMBER OF GLANDS IN CASES OF POLYMASTIA.

As I have stated before, it is common in Japan to find only one supernumerary gland on both right and left sides. I have found, in my observations, only 32 cases having more than 3 out of 511 subjects of polymastia—namely, 1 woman having 6 in number; 2 women having 5; 5 women and 6 men having 4; and 9 women and 8 men having 3. As far as I know, the case cited by Dr. Neugebauer, in which the woman had 6 above the normal breasts and 2 below, is the most remarkable one hitherto known. Dr. Hennig, adding 11 cases which he had observed himself to 105 cases of Dr. Leichtenstern, classified as follows: 51 cases having 3 in number; 33 cases having 4; 2 cases having 5; and 2 cases having 6. Nothing is said of the number of glands found on the remaining 28 subjects. Dr. Puech classified 77 cases as follows: 46 cases having 3 in number; 29 cases having 4; and 2 cases having 5. Dr. Ammon classified 66 cases as follows: 62 cases having 1 in number; and 4 cases having 2. Dr. Watanabe classified 107 cases as follows: 1 case having 3 in number; 25 cases having 2; and 81 cases having 1. Judging from the above it seems that those who have the larger number of such supernumerary glands are females.

HEREDITARY TRANSMISSION OF POLYMASTIA AND ITS BLOOD-RELATION.

Several experts have written on the hereditary nature of polymastia. Dr. Leichtenstern states that in one-thirteenth of the total number of cases observed there was an indication of its being inherited. The case cited by Dr. Péterquin is a remarkable one, three sons and two daughters having inherited polymastia from their father. In 1892 Dr. Bonnet wrote that there were five cases of hereditary transmission known up to that time, of which three cases were transmitted from mothers to daughters. Dr. Neugebauer, citing Dr. Martin's cases in which the transmission continued for three generations, says that he observed many instances in which such anomalies were not inherited.

Out of 555 cases which came under my observation I found 31 cases (or 6 per cent.) of hereditary transmission and five cases (or 0·97 per cent.) where brothers and sisters had them alike.

1 case	from	mother	to	2 sons, 2 daughters, and 1 granddaughter.
1 ,,	,,	,,		2 sons and 3 daughters.
2 ,,	,,	,,		1 daughter and 2 granddaughters.
1 ,,	,,	,,		2 daughters and 1 grandson.
1 ,,	,,	,,		1 son and 2 daughters.
3 ,,	,,	,,		1 daughter.*
2 ,,	,,	,,		2 daughters.
8 ,,	,,	,,		1 son.
10 ,,	,,	,,		1 daughter.
1 ,,	,,	,,		1 daughter and 1 granddaughter.
1 ,,	,,	father	to	1 daughter.
1 ,,	in which elder and younger brothers had them alike.			
4 ,,	in which elder and younger sisters had them alike.			

* The mother's younger brother was also a subject of polymastia.

As may be observed from the above, hereditary transmission is generally from mothers and I have met with only one

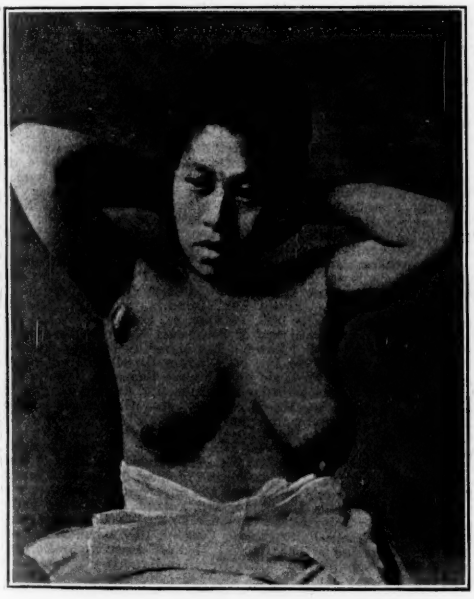
case of transmission from the father like that described by Dr. Péterquin. The case observed by Dr. Otani in Nagasaki, in which polymastia was inherited through four generations, from the great-grandmother to the grandmother, to the mother, and to her six children (three boys and three girls) is the most remarkable one on record.

MAMMARY GLANDS OF POLYMASTIA AND THEIR SECRETORY PROCESS.

The development of polymastia is not always uniform. As Mr. J. Bland-Sutton has pointed out, there are three forms of its development: (1) the nipple, areola, and glands are so completely formed that they do not differ from the ordinary mammæ; (2) as we see very often, the nipple alone is existing—polythely; and (3) as in the cases reported by Dr. Satō and myself, the glands were found under the skin. In cases where these glands are fully developed there is generally more or less secretion of milk at the time of parturition; but the amount of milk and the duration of the secretory period are not always the same. I observed 11 cases in which the secretion was found at the time of parturition; and the longest period of lactation in my observation was six months after parturition. Although Dr. Uno, as above stated, mentions a case in which a woman was considerably annoyed after parturition by having dripping of milk from supernumerary glands in both axillæ, all my experience has proved to me that the secretion is obtained only by pressing or squeezing, and in so doing I could first obtain an uncoloured thin liquid, followed by cream-coloured milk.

The microscopical examination of the milk drawn from the glands a few days or a few months after parturition very often proves the existence of a great number of milk globules and a few epithelial cells. Whether there are glands or not in the polymastia cannot be ascertained until the subject has given birth to children several times. Although at ordinary times there may not seem to be any glands, when the lactation period comes on there are many cases where perfect secretion is performed. In the case cited by Dr. K. Satō the supernumerary glands at the anterior edge of the

FIG. 3.



Supernumerary mammary glands in both axillæ secreting milk.

right axilla had a swelling of the size of a pigeon's egg which at the time of parturition, together with the ordinary mammæ, became enlarged to the size of an orange. At her second parturition a swelling of the same size appeared at the same place on the left and also on the inner side of the upper arm. At this time the one on the right had swollen to a lump larger than the fist. At the third parturition it became enlarged to such an extent as to prevent the movement of the right upper extremity, so that Dr. Satō was obliged to remove it by a surgical operation. (See Fig. 2.) Later, at the fourth parturition, a regeneration of the mammary gland had appeared again at the same place on the right and gradually swollen to a lump as large as the fist. At the fifth parturition he was again obliged to remove it.

During the year 1906 I myself, too, observed in a woman who had given birth to triplets a bunch of the size of an egg which had appeared under the skin of the left axilla and atrophied within 30 days after the parturition. In July, 1903, Dr. Kinoshita, Professor in the Tokyo Imperial University, had kindly invited me to examine a female patient at the hospital of the Tokyo Imperial University, where I had an opportunity of observing a very interesting case of polymastia. The said patient, who was 24 years of age, was then on the eighth day after her third confinement. At the examination I found in her a supernumerary mammary gland of the size of a pigeon's egg in each axilla and a smaller one on each anterior wall of both axillæ. (See Fig. 3.) After squeezing them I recognised the secretion of milk from each of them.

FIG. 4.

Section of a supernumerary mammary gland in a case of polymastia.

In the case observed by Dr. Neugebauer, that of a woman 23 years of age having supernumerary mammary glands eight in number, at the first parturition no change took place, but from the second day of the second parturition the process of secretion commenced in every one of them. Through the kindness of Dr. Satō I was enabled to examine the glands which he had removed, and by examination of the microscopic specimen of the same I have been able to ascertain the existence of acinous glands in it. During the month of April, 1903, I had, however, an occasion of taking a supernumerary gland out of a woman 27 years of age. The microscopical examination of this proved the existence of acinous glands. (See Fig. 4.)

CONCLUSION.

From the above statements I have arrived at the following conclusions:—

1. Among the Japanese, unlike the Western people, polymastia is generally found above the normal breasts, and most commonly on the anterior wall of the axilla, or the region II. indicated by Dr. Williams.

2. It is likely that in many cases of polymastia the areolæ of those under the normal breasts are pigmented, and that in males they are more likely to be pigmented than they are in females.

3. According to the result of investigations made by myself and others up to the present time the rate of polymastia is 1·68 per cent. among males and 5·19 per cent. among females. The fact that we find it more frequently in females than in males, and on the left side than on the right, exactly coincides with the results obtained in the West.

4. Six is the largest number of glands yet found on one person.

5. It is certain that polymastia is inherited and in most cases is transmitted from mothers.

6. In the perfect supernumerary mammary glands secretory process begins at the time of parturition and sometimes it continues for over six months.

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SPONTANEOUS ANEURYSM OF THE POPLITEAL ARTERY TREATED BY EXTIRPATION.

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MUCH that has been written upon aneurysms of the limbs, and especially those of the popliteal artery, requires to be revised, in the light of modern methods of dealing with this disease, whether of spontaneous or of traumatic origin. For example, in Vol. LXXXII. of the Transactions of the Royal Medical and Chirurgical Society a paper on extirpation of a large non-pulsating aneurysm of the carotid artery, by the late W. J. Walsham, will be found, together with a very useful table of cases of various aneurysms treated by extirpation. Carotid, femoral, subclavian, inguinal, and tibial aneurysms are tabulated as well as popliteal, but for the present purpose allusion will be made to the 17 popliteal aneurysms only, forming as they do an excellent group for demonstrating the value of treating aneurysms of this artery by extirpation. Of this group, 13 were spontaneous aneurysms and were dealt with by exposure of the sac, ligature of the artery on its proximal and distal sides, and removal of the sac. All these cases came from foreign sources; 11 recovered and two died. The case now placed alongside with this group was treated in the same way.

A man, aged 54 years, a labourer in gas works, came under observation on August 25th, 1905, suffering from a popliteal aneurysm on the right side. Three months previously he strained his right knee and afterwards had always felt pain in the knee and down the calf of the leg when at work. A fortnight before admission to hospital he noticed a swelling behind the knee of about the size of a pigeon's egg; this swelling grew rapidly in size before he came for treatment. Behind the right knee there was a large pulsating fusiform swelling, expansile in all directions; a thrill could be felt over it and with a stethoscope a murmur could be heard. Pulsation and swelling could be obliterated by pressure on the femoral artery.

On August 28th chloroform was given, a tourniquet was applied to the thigh, and the patient was turned on to his face. An incision six inches long was made over the popliteal space; the politeal artery was dissected out above the aneurysm, ligatured in two places, and cut between the ligatures. The artery was cleared below the aneurysm and the same method adopted as above; the aneurysm was then dissected away. The only difficulty met with was due to adhesion of the popliteal vein to the sac of the aneurysm. More than five minutes were lost in the endeavour to separate the union, but this was found impossible and the vein was divided. From the sac an artery of some size passed forwards to the knee-joint. When the sac was just upon cleared it broke off from the distal ligature, showing the degenerated and brittle condition of the vessel. The sac was not opened until the operation was over, and was got away with comparative ease and without damaging its walls. Within the aneurysm there was little or no clot, or any found there was in decolourised flakes of fibrin adhering to the wall. The wall of the sac was as thin as brown paper and the size of the sac was equal to the fist of an infant three months old or to a russet apple. On August 30th the patient complained of cramp in the calf of the leg and a hot burning feeling across the instep and sole of the foot. Circulation in the toes was good. On Sept. 7th the burning feeling and numbness were gone; the stitches were removed. On Nov. 25th a sinus which had persisted was touched with pure carbolic acid. On Dec. 12th the wound had healed. The patient was able to kneel slowly without pain and walk with only a very slight limp.

With regard to the later progress of the case I heard from the patient on April 11th, 1907, when he reported himself as able to walk three or four miles without trouble or without a stick and he was engaged as a gardener and to do light work about a house. He stated that he had not the strength in his leg for any heavy work.

The method of treatment adopted was that which was considered by Walsham to be the ideal way of extirpating an aneurysm, for the whole aneurysm was got rid of and the cure was radical. The only damage done to other structures was due to the adhesion of the popliteal vein to the sac: a possibility to which Walsham drew attention; but it does not seem that cutting the vein is likely to be attended with any evil consequences. Perhaps the reason why reluctance has been shown to performing excision of a popliteal aneurysm is that it was formerly taught that cutting the popliteal vein would assuredly be followed by gangrene of the limb, but here it was the anatomist who spoke and not the surgeon. So often has this important adhesion been found that the surgeon who extirpates a popliteal aneurysm will always be on the outlook for it. In other respects, a popliteal aneurysm will not be likely to have contracted any adhesions. Even in Walsham's case of non-pulsating carotid aneurysm he speaks of it as well encapsuled, though slightly adherent to the neighbouring parts.[1] In short, for a case of uncomplicated spontaneous aneurysm of the popliteal artery excision of the sac will prove a comparatively simple operation. The ages of the cases given in Walsham's table ranged from eight to 63 years, and it is interesting to note that the man aged 63 years did quite well. One death was due to suppuration of the knee and the other to gangrene.

The risks associated with extirpation of popliteal aneurysm are possibly the same as those connected with other methods of treatment. Gangrene of the limb has followed compression of the femoral artery as well as after ligature and will perhaps occur in cases of extirpation. Compression has been stated in the record of cases of popliteal aneurysm to have cured in hours, days, weeks, and months, up to six, from which it may be gathered that considerable uncertainty attends this plan of treatment. Far more certain results have followed ligature of the femoral artery, but failure to cure by this method is also on record. Not only in popliteal aneurysm has ligature failed to cure, but in Henry Morris's case[2] a return of pulsation occurred in a carotid aneurysm after ligature of the carotid, and the old operation of laying open the sac, turning out the clots, and tying the vessels was done, but the sac was not removed.

Given an aneurysm cured by compression or ligature of the femoral so that the sac ceases to pulsate and the clot, if present, contracts, who can say if the cure will be a permanent one, or if trouble will not arise in the future, as in Scott's case,[3] exhibited on April 27th, 1894? A popliteal aneurysm had been treated by compression, flexion of the limb, and finally by ligature of the artery, and was apparently cured. Three years later the tumour began to increase in size and subsequently gangrene of the foot set in. The aneurysm was dissected out and a Chopart's amputation was performed. Primary removal of the aneurysm would appear to have been a better plan of treatment.

I can well understand a false aneurysm giving far greater trouble to extirpate; the tissues have been distended with clot and disguised, the mouth of the wounded artery is not found at once, but it is just in such cases that extirpation of the aneurysm has been attempted and successfully carried out. For example, in THE LANCET of May 20th, 1893, p. 1214, is a note on a case taken from the *Revue de Chirurgie* treated by M. Terrier and M. Hartmann, where a diffuse popliteal aneurysm caused by an exostosis growing from the inner supracondyloid ridge was dealt with by excision of the injured portion of the artery and the patient recovered with full use of his limb.

In Walsham's table under another heading are three cases of popliteal aneurysm in which the sac was opened, clots were turned out, the artery was tied, and the sac was removed; all these recovered. Of popliteal aneurysms with false sacs Walsham gives a case by Littlewood, where a false sac was laid open, clots were turned out, the true sac was discovered, the artery was tied above and

[1] Transactions of the Royal Medical and Chirurgical Society, vol. lxxxii., p. 225.
[2] Ibid., vol. lxiv.
[3] Transactions of the Clinical Society, vol. xxvi., p. 281.

below, and the sac was removed; a troublesome kind of operation in comparison with the simplicity of that for extirpating a spontaneous aneurysm, and if excision is a successful treatment for diffuse aneurysm, the same plan can be used with greater confidence to the spontaneous form, because in the latter a better chance has been afforded for the establishment of the collateral circulation. As examples of the failure of ligature to cure a popliteal aneurysm a case recorded by the late Christopher Heath may be quoted.[4] 14 days after ligature of the femoral the pulsation in the sac was again as forcible as before operation; the aneurysm was excised by Victor Horsley. A second case of popliteal aneurysm was treated by ligature of the femoral by Mr. Heath, but four weeks later Mr. Horsley amputated the thigh for gangrene. Littlewood[5] recorded a case of popliteal aneurysm treated by excision of the sac, and urged this method of treatment of diffuse aneurysms of the arteries of the limbs; he also opined that the same method would meet with favour as the best for treating aneurysms in the same situation before they became diffuse. Before the Leeds and West Riding Medico-Chirurgical Society on March 16th, 1897, the same surgeon showed a man from whom he had excised a diffuse popliteal aneurysm.

In five of the cases in the table referred to no previous treatment had been tried, and in some of the others no statement appears on this point. In my case no attempt at treatment was made other than by extirpation; no doubt extirpation can always be fallen back upon as a last resort after the failure of compression or ligature, but it seems to me, in the light of modern surgical opinions, that extirpation should be a first resort rather than the last. Perhaps in the same way that the uncertainty of the truss has led up to the greater security afforded by methods of radical cure for hernias, it may be found that compression, flexion, and tying the femoral will give way to the more satisfactory way of curing an aneurysm, wherever possible, by extirpation. In this respect we shall again be the debtors of Lord Lister, for radical cures of hernia are done as routine operations owing to the safety of aseptic means, and extirpation of an aneurysm loses a very large part of its risk owing to the same means.

Until a sufficient number of cases is collected it will not be possible to make a comparison between the value of extirpation as contrasted with ligature, but the cases recorded from foreign sources are accumulating and before long it will be possible to say more definitely than at present. Tillmans[6] says that the results of ligature of the femoral artery are uncertain and that the surest treatment for popliteal aneurysm is extirpation of the sac. The prognosis of excision of the sac Tillmans considers more favourable in idiopathic and old traumatic aneurysms than in fresh traumatic aneurysms, because in the latter the re-establishment of a sufficient collateral circulation is impeded in consequence of the pressure of the surrounding tissue which is infiltrated with blood.

Without unduly advocating the more modern method of excision of an aneurysm, it may be well to point out that even successful treatment of an aneurysm may not prove to be a permanently successful cure. Some years ago I was consulted about a case of gangrene of the foot and leg in a man between 70 and 80 years of age. I amputated at the knee level and turned out a solid fusiform aneurysm of the popliteal artery at its upper portion. This aneurysm had not been recognised before operation and the gangrene was supposed to be of senile origin. The aneurysm was filled with solid, firm clot and probably contributed to, if it did not actually cause, gangrene. The operation of Antyllus will hardly be introduced again, but the success attending it will lead to a bolder method of dealing with aneurysms in all accessible parts of the body. Antyllus ligatured the vessel above and below the sac, then opened it, and turned out the clots, but did not extirpate. According to Tillmans[7] "the literature of the subject gives, according to Köhler, 14 cases of extirpation of popliteal aneurysms by the method of Antyllus which resulted favourably."

In what cases should extirpation be attempted or done cannot be definitely stated at present, but seeing that the methods employed hitherto are uncertain I think there is good reason for taking immediate recourse to extirpation in all aneurysms in accessible positions, whether subclavian, femoral, carotid, or popliteal, for the results obtained, scanty in number though they may be, are sufficiently encouraging to warrant any surgeon giving the newer method a favourable consideration. Writing in 1895 the article on Aneurysm in "A System of Surgery," edited by Treves, A. Pearce Gould says[8]: "Several cases of excision of aneurysm have recently been recorded and it is probable that this mode of treatment will be employed more frequently in the future than in the century following Hunter's memorable operation."

"Excision," says Bilton Pollard,[9] "is, in my opinion, the best treatment for all aneurysms situated in accessible positions and no aneurysms are more suited to that method of treatment than femoral aneurysm." The popliteal region is one eminently adapted for extirpating an aneurysm, but in other regions less accessible aneurysms have been dealt with in the same manner—for instance, to the late H. W. Allingham[10] we owe a brilliant example set by his successful excision of a subclavian aneurysm in circumstances of far greater difficulty than could ever be encountered in the popliteal region. In 1900 I operated upon a subclavian aneurysm after Allingham's plan, meeting little or no difficulty.[11] The patient returned to his occupation in the same workshop as a fitter, doing the same work and getting the same wage as before, being absolutely cured, and is still at work as a mason's labourer. This result more than anything else induced me to attempt extirpation of the popliteal aneurysm now recorded.

Carlisle.

[4] THE LANCET, August 25th, 1894, p. 439.
[5] THE LANCET, Nov. 17th, 1894, p. 1143.
[6] A Text-book of Surgery, vol. iii., 1900, p. 781. Translated from the fourth German edition by Tilton.
[7] Ibid.
[8] Vol. i., p. 623.
[9] THE LANCET, April 27th, 1907, p. 1157.
[10] THE LANCET, June 3rd, 1899, p. 1487.
[11] Transactions of the Clinical Society, vol. xxxiii., p. 246.

ACTINOMYCOSIS OF THE APPENDIX.

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ACTINOMYCOSIS of the vermiform appendix was first observed by Barth who described two cases in 1890; the first case recognised in England was recorded by Ransom in 1892. Since attention has been directed to the location of actinomycosis in the right iliac fossa it has become evident that a number of the cases really originate in the cæcum, and an identical clinical picture may result after perforation. Hence a preferable title would be "actinomycotic perityphlitis" and such will be the scope of the present thesis, though the more usual designation has been preserved above. Three cases have come under my charge in the past year and I describe two more from the annals of the Bristol Royal Infirmary. The notes of the cases are as follows:—

CASE 1.—The patient was a male, aged 14 years. He was admitted on Sept. 28th, 1900, complaining of a painful lump in the abdomen. There was nothing of importance in his previous history. 21 days ago he suffered from pain in the appendix region, two days after a school feast. There was no vomiting. The bowels were costive. The pain had been getting steadily worse and a week ago a lump was noticed. There was no history of swallowing any foreign body. On admission the boy was found to be pale, thin, and looking ill, with much pain. The temperature was 100° F., the pulse was 116, and the respirations were 20. The chest was normal. There was a large, hard, prominent lump occupying the whole of the right iliac fossa from the umbilicus to Poupart's ligament, extending somewhat beyond the middle line. It fluctuated a little and was adherent to the abdominal wall, but the skin was not discoloured. It could be felt per rectum. On the next day an incision was made under chloroform and pus was evacuated from the parietes under the skin; there was a hole through the muscles and a large deep cavity about the cæcum containing much dark fœtid pus. From this a bent pin was extracted. The cavity was surrounded by massive adhesions and the appendix was not found. A tube was inserted. The boy's condition did not improve; he still had a hectic temperature, and fresh collections of pus pointed, and were opened, below the umbilicus and above the pubes, on Oct. 4th, 21st, and 30th. From each foul pus was let out. The cavities, which all communicated, were thrown

into one, scraped out, and laid open by flaps on Nov. 10th. On Dec. 4th the fever and discharge continued; the right rectus was cut across and was found to contain pus. Anti-streptococcus serum was now given, the disease being supposed to be due to cocci. On the 20th pneumonia was discovered at the right base, which advanced and spread later to the left base also. On Jan. 11th the patient died.

Necropsy.—The intestines were much matted and the right lower abdomen was full of massive adhesions inclosing loculi of pus. There was an abscess about the tip of the appendix, which was perforated and imbedded in adhesions. The liver contained an abscess of the size of a cricket ball. The pleuræ on both sides were adherent above and contained offensive pus below. The lungs were full of small abscesses. Sections of both lungs and liver showed actinomycosis. Though this had never been found in the discharge from the abdomen, there can be little doubt that the fungus was introduced through the abdomen, presumably by means of the pin.

CASE 2.—A female, aged 43 years. The patient was a widow and was admitted on Oct. 1st, 1902, complaining of pain in the right side of the abdomen. The pain had lasted seven days. Five days ago she was sick. Previously to this illness she had an attack of pain in the left side of the abdomen three years ago "cured" by medicine. On admission she looked healthy; there was no pain. The temperature was 100·6° F. and the pulse was 107. There was a hard, round, dull, tender swelling in the right iliac fossa, not involving the skin. The rest of the abdomen was soft and moving freely. For several days she seemed better and the temperature became normal, though the lump was unchanged. The temperature again reaching 100·5°, on Oct. 7th an abscess far back in the loin, containing half a pint of fœtid pus, was opened and drained through the usual appendix incision. There were massive adhesions. The appendix was not found. She rapidly improved, the wound closed, and she left apparently cured.

On Dec. 2nd the patient was readmitted with an abscess in the right loin above the old operation scar. This was opened and drained. The skin was thickened and brawny, bluish and shiny. On the 22nd and 30th two further abscesses in the right loin were opened. There were now hectic fever and wasting. On Jan. 8th, 1903, there was great induration of the whole of the right loin, where the original abscess about the colon had resolved itself into three foci, the third of which was now opened. Yellow granules were noticed in the pus which proved to be actinomycetes. On Feb. 24th the loin was still indurated and riddled with sinuses, and three fresh spots appeared above the iliac crest. The fever continued at 101° nightly. On March 17th and April 7th fresh abscesses were opened and scraped. On June 20th the base of the right lung was consolidated, the breath sounds and vocal fremitus being absent. The chest wall was bulging and the skin was red and œdematous. Three weeks later a sinus burst over the scapula. On Sept. 3rd seven ounces of pus were evacuated from the chest at the level of the fifth rib. Other abscesses formed and were dealt with in the chest on the right side. On Nov. 11th the patient was discharged. She died "some months later." There was no necropsy.

CASE 3.—A male, aged 14 years. He was admitted on Jan. 7th, 1906, complaining of pain in the abdomen. On Dec. 26th he had pain at the umbilicus, but did not vomit. The bowels had been open regularly since. The boy did not leave work until Jan. 6th, when the pain became worse and was localised in the right iliac fossa. There was no history of swallowing anything. He had had a little abdominal pain in the previous autumn. On admission he was pale and thin but was not looking ill. He walked in. The temperature was 100·2° F., the pulse was 120, and the respirations were 18. The tongue was clean. There was a hard, tender, rounded well-defined lump in the right iliac fossa of the size of a cocoanut; the rest of the abdomen was soft and moving freely. The skin was normal. A diagnosis of appendicitis abscess was made and immediate operation was performed. Immense densely matted adhesions were found. With great difficulty a way was made through these. The caput cæci was found in a mass of adhesions; the appendix was firmly imbedded in omentum and adherent to the transverse colon by its tip. It was ligatured and cut away, but invagination failed. Time one and a half hours. A tube was inserted. The appendix was constricted; beyond this it was thickened. Lying inside it, in a sloughy bit of mucous membrane, was a triangular blackberry thorn one-third of an inch across. On separating the appendix from the ensheathing omentum a few drops of pus were seen. On Jan. 14th there was a fæcal fistula; the patient was still feverish. On the 28th there was still some elevation of temperature at night; the fistula was closed. During the next week it reopened; a small abscess burst at the umbilicus. On Feb. 19th the fever was high and a median incision below the umbilicus let out pus. He continued with discharging sinuses and hectic fever. On April 3rd the chest wall in front of the liver bulged and was red and tender; on the 5th a subphrenic abscess was opened here. Actinomycetes were found in the pus; search in the pus of the other wounds also revealed them. The boy was now very ill. On April 16th he left the infirmary. Three weeks afterwards he died. There was no necropsy.

CASE 4.—A female, aged 16 years. The patient lived in the country. She was admitted on Nov. 20th, 1905, complaining of abdominal pain and a sinus. In June, 1904, a painful swelling formed in the right iliac fossa which spontaneously discharged. She then went to a cottage hospital where she remained for ten months. On four occasions abscesses about the appendix region were opened; the last of these was a large one behind the great trochanter. At one time an appendicular concretion came away. The sinuses all closed. On admission the general condition was good; there was no fever. The chest was normal. There was a discharging sinus midway between the umbilicus and pubes; there were healed scars over the appendix and behind the hip. The hip-joint moved freely. The spine was normal. A week later, the temperature rising a little, chloroform was given and the abdomen was opened in the appendix region. Enormous matted adhesions were found occupying the whole right lower abdomen, and nothing was done. The wound healed but the fever still rose; during December the wounds in the groin and back of the hip broke out again. On Dec. 22nd a median incision was made from the umbilicus to the pubes; the peritoneum was half an inch thick and very adherent to the omentum and bowels. There was an extraordinarily dense mass below it. The appendix was found sloughed off one inch from its base; it was ligatured. The mass was adherent all round the cæcum. The sinuses, which led to the appendix, were scraped. She went steadily downhill, with high fever and free suppuration. An abscess was opened near the umbilicus. On Feb. 2nd dulness was found at the right base; this eventually developed into a subphrenic abscess, which was opened on March 8th but only one drachm of pus was found. On March 23rd the subphrenic region was again explored in front and behind but to no purpose. Soon after this actinomycetes were found in the pus from all the abdominal sinuses. The patient gradually wasted away, with a temperature of 103° every night. On May 5th she went home and died three months later. There was no necropsy.

CASE 5.—A female, aged 25 years. She was admitted on May 14th, 1907, complaining of a painful lump in the abdomen. Eight years previously she had had appendicitis; she was admitted to this institution and an operation was performed. Plastic adhesions surrounding the appendix were then found and nothing was done. Since then she had, on the whole, been fairly well, but had occasional pain for years past in the same place. During the previous fortnight this had been worse and the lump had been noticed. There was no vomiting; the bowels were costive. On admission she was found to be slightly built, pale, and thin; she was very short. The temperature was 99° F. and the pulse was 90; the tongue was clean. The chest was normal. There was a hard, well-defined, tender mass of the size of a cocoanut in the appendix region; the skin was not involved. The rest of the abdomen was normal. A diagnosis of actinomycosis of the appendix was made and on May 17th operation was performed. The bowels were found to be densely adherent to the anterior abdominal wall and an attempt was therefore made to get into any abscess cavity by working from the outer side behind the peritoneum. A spongy abscess was thus entered lying behind the cæcum; from this pus containing yellow granules was evacuated; these on microscoping and cultivating proved to be actinomycetes. A tube was put in. Three days later the sinus became fæcal but only for a day or two. No improvement resulting, a further operation was performed in June and more pus let out. Again the wound became fæcal. On August 26th a large hole in the cæcum was sewn up; the appendix was not found. She died on August 30th. There was no necropsy. All five

cases were treated with large doses of iodides, and iodine and hydrogen peroxide locally.

FREQUENCY OF ACTINOMYCOTIC PERITYPHLITIS.

Grill mentions 77 cases as recorded up to 1895. In 1904 Löwe of Greifswald referred to 68 cases, but as he only gives the names of a few of the original publishers it is impossible to say how many are included both in his list and in Grill's. I have found 27 cases described since Löwe's paper appeared and it is probable that the total number is about 150, of which 27 are English. This is very far from representing the real frequency of the condition. Many cases have been recognised but have not been published. It is highly improbable that the nature of the disease will be realised unless search is made for the granules, and even then they are frequently absent from fæcal or chronic sinuses in undoubted cases. At St. Bartholomew's Hospital, of 650 affections of the right iliac fossa seven were due to actinomycosis. At the Bristol Royal Infirmary, of 380 cases diagnosed as appendicitis five were proved to be due to actinomycosis. In each hospital, therefore, the proportion is between 1 and 2 per cent., but for the reasons given I am confident that this greatly under-estimates the real frequency of the condition. That most of the writers on the subject have seen two, three, or more cases, and that they represent England, France, Germany, Austria, Sweden, Italy, the Argentine, the United States, and Canada, suggests that it is a widespread affection and not so uncommon as the records would suggest.

ETIOLOGY.

Sex.—Of 68 cases described by Löwe 49 were male and 19 were female. Of 20 cases recently described in England 13 were male and seven were female. Therefore the proportion is about five male to two female.

Age.—Using the same records we find :—

Between	0–10	years of age	0 cases.
,,	10–20	,, ...	15 ,,
,,	20–30	,, ...	21 ,,
,,	30–40	,, ...	18 ,,
,,	40–50	,, ...	15 ,,
,,	50–60	,, ...	7 ,,
,,	60–70	,, ...	4 ,,

We notice that after puberty every age is equally liable, from which it of course follows that the disease is most frequently seen between 20 and 30 years. Young children escape ; I do not know of any instances younger than 14 years.

Occupation.—A large number of the sufferers are in some way connected with farm life or deal with corn.

Foreign bodies, apparently carrying the infection, have been found in at least five cases, two of which are recorded in this paper. The substances in question have been a small husk of corn (Illich), a husk of barley (Ammentorp), a pin, and a blackberry thorn. Cuff has described an actinomycotic abscess of the abdominal wall about a wheat husk which had escaped from the ascending colon.[1] In Regnier's case a foreign body was imbedded in the tumour but its nature could not be determined.

Nature of the invading organism.—As has been pointed out by Kellock, it is probable that in some cases what have been described as actinomycetes are in reality another form of streptothrix. In my three cases clubs were distinctly visible.

PATHOLOGY.

Organ affected.—According to Poncet and Berard 60 per cent. of cases of actinomycosis of the abdomen have their origin in the right iliac fossa. In many instances it is never possible to discover the exact site of invasion. Of 21 cases tabulated by Löwe in which a definite statement was possible 16 started in the appendix and five in the cæcum. Of 13 cases since described ten started in the appendix and three in the cæcum (all three described by Waring). The proportion is therefore about 3 to 1.

Nature of the original lesion.—It is seldom that opportunity arises for determining this. Most usually a small ulcer forms in the mucous membrane, which tends to spread and deepen and is surrounded by a congested area. In this the mycelium has been detected microscopically (Dieulafoy, Kelly, Godlee, and others). In other cases small nodules in the submucous coat may be seen projecting through pigmented mucous membrane which later soften and ulcerate through (Koranyi). In a case described by Thédenot (quoted by Kelly) a slightly swollen appendix was removed when an interval had elapsed after an attack of acute appendicitis, and later the disease appeared in the stump.

Spread.—Three types are described. 1. The mucous membrane may be very extensively ulcerated, forming the principal if not sole localisation of the disease (Chiari, Canali, quoted by Daske). 2. The wall of the appendix and cæcum may be greatly thickened without perforation or extension (two cases described by Hofmeister). 3. Perforation is the usual sequence. Acute general peritonitis does not result, but abscesses form and track freely in all directions, enclosed by adhesions of very extraordinary density, more so than in any other abdominal condition. In one of my cases the peritoneum was half an inch thick.

Further spread takes place by *continuity* and by vascular *metastasis*. As regards continuity the number of directions in which the pus may track is extraordinary. Not uncommonly the disease progresses at one point and retrogresses at another, and long radiating indurated scars leading from the appendix to the transverse colon or liver may be left. The following are sites where abscesses may form or point by direct extension : amongst the muscles of the abdominal wall (as in two of my cases) ; in the loin (three of my cases) ; at the umbilicus (two of my cases) ; on the left side of the abdomen (in Gangolphe's case it originally presented in that situation) ; in the hypochondrium ; as a subphrenic abscess (two of my cases) ; in the lungs, pleura, and chest-wall (two of my cases) ; in the groin, buttock, or hip-joint (Grill and others) ; or as a perinæal abscess on the right side. It may involve the bladder and ureter (Ammentorp), or an abscess may burst into the bladder (Boström, Hesse, Billroth) or rectum (quoted by Löwe), or erode the lumbar vertebræ (three cases quoted by Löwe). Benda and others have described secondary thrombosis of the inferior vena cava. Metastasis is principally in the liver where abscesses are very common and may attain a large size. They are often of a spongy character rather than well-defined cavities. Kellock has described a case with abscess of the pancreas.

Secondary infections.—It is very common for the sinuses and abscesses to become fæcal. Exhaustion from septicæmia is the usual cause of death. Albuminoid degeneration often occurs.

SYMPTOMS.

Hinglais's description may be followed.

1. *Initial period of visceral manifestations.*—This consists of vague pains in the right iliac fossa, sometimes associated with intractable diarrhœa. This may be muco-membranous in type (Ransom, Partsch, Langstein). The pain may be severe and relapsing appendicitis will probably be diagnosed. There are no local signs. One case died in this stage after 24 hours (Sokoloff).

2. *Stage of tumour formation.*—The characters of this stage are described in the next section.

3. *Stage of fistula formation.*—Abscesses burst or are opened in the neighbourhood of the original site and dark fœtid pus discharges. In this the granules may be found but they are very often absent, especially if the discharge is fæcal. The best time to look for them is when a new abscess is opened. This stage usually lasts for months, subphrenic or pulmonary abscesses form, and the patient dies from hectic fever and exhaustion. In some cases, however, there is—

4. *A stage of cicatrisation.*—The fistulæ close and cure results. Unhappily this is often only temporary.

DIAGNOSIS.

Before perforation has occurred, with the formation of a tumour, the diagnosis can only be made by finding actinomycetes in the stools. This has been done by Ransom. I have found the ray fungus in the motions of a patient with abdominal actinomycosis, not of the right iliac fossa. When in a patient over 14 years of age there is a history resembling appendicitis and a large, very hard mass adherent to the deep structures and to the abdominal wall is felt in the right iliac fossa, but the temperature is not high, the pain is slight, and there has been little or no vomiting, actinomycosis should be strongly suspected. On such a clinical picture, added to the fact that eight years previously plastic adhesions had been found about the appendix, I diagnosed actinomycosis in my last recorded case, and at the operation this proved to be correct. If in addition the skin is œdematous, thickened, shiny, and of a purplish-violet tint the probabilities are very great. Further, when after operation for appendicitis massive adhesions are found and secondary abscesses and fistulæ continue appearing for

[1] Brit. Med. Journ., July, 1906, p. 137.

weeks afterwards in the neighbourhood, especially if a subphrenic abscess or abscess of the base of the right lung is suspected, actinomycosis should always be considered a very probable cause. Another point in the diagnosis of the condition is the spongy character of the abscesses, so that very little pus may be got from a large swelling. This character is not present when there is a considerable secondary infection with pyogenic organisms.

The actual confirmation of the diagnosis, of course, depends on the finding of the ray fungus. It is best seen in a thin layer of pus running down inside a test-tube, the yellow granules, about as large as a pin's head, sticking to the glass. These should be put on a slide, covered with a cover-slip very gently pressed on, and examined unstained. They form transparent areas to the naked eye. The further diagnosis rests with the microscopist.

Sometimes this affection may resemble tuberculous or malignant disease of the cæcum, but in actinomycosis the mass is larger, more fixed, and there are no obstructive symptoms. It may also be confounded with psoas abscess.

PROGNOSIS.

In my opinion this is much less favourable than English writers have admitted. My own cases have been particularly unfortunate, every one of the five having eventually died. In giving a prognosis the relapsing nature and long duration of the disease are to be taken into serious account. Gangolphe's case when he reported it was said to be recovering; he soon after died. One of my cases was sent out "well"; she came back and died a year later. A patient at St. Bartholomew's Hospital, reported by Waring, was sent out apparently cured but went back and died. A patient of Blascko, reported by Israël, relapsed and died after two years of apparent cure. One of my cases was operated on for appendicitis eight years ago, and though there had been symptoms ever since and a large mass was present that must have taken many months to form only lately has she been seriously ill.

Of 77 cases Grill quotes 22 cured, 10 relieved, and 45 dead. Of 68 cases (overlapping the above to some extent) Löwe quotes 12 cured, 36 dead, and 20 under treatment. Of 13 recent cases 4 have recovered and 9 died. We may conclude, then, that more than two-thirds of the cases die and that even those reported cured are liable to relapse. Most of the so-called cures have been watched for a very short time. Volkmann and Hochenegg have each followed cases for five years, still quite well. When extensive sinuses have formed, with fœtid pus, recovery is nearly hopeless, and the appearance of disease in the lungs or liver is equivalent to a death-warrant. The disease is usually miserably chronic and may last for years. One case died in 24 hours and several have run their course in a month. The average is about nine months. Erving's case lived 13 years.

TREATMENT.

Having regard to the very grave outlook, a determined attempt should be made completely to remove all foci of the infection if the patient comes under treatment soon enough, and unless such removal is quite impossible the surgeon should be prepared even to sacrifice the cæcum and neighbouring bowel, perhaps with temporary formation of an artificial anus. There is a strong temptation merely to open abscesses and this usually allows the patient to become doomed. Unfortunately, it has generally been found quite impossible by a reasonable sacrifice to eradicate the disease. All that can then be done is to open abscesses as they point. Potassium iodide in large doses is usually given; the wounds may be washed out with diluted tincture of iodine. Illich, von Eiselberg, and Friedrich claim great success with injections of tuberculin. Arsenic and calomel appear to have done good. Waring recommends peroxide of hydrogen as the best application for the sinuses.

I most cordially acknowledge the kindness of Mr. J. Paul Bush, Mr. G. Munro Smith, Dr. J. Swain, and Mr. T. Carwardine in allowing me to publish cases from their wards. Mr. T. H. Kellock also very kindly gave me some details of his cases by letter.

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Bristol.

TWO CASES OF ACUTE TUBERCULOUS CEREBRO-SPINAL MENINGITIS.

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THE first of the two cases dealt with in this paper is one of very considerable clinical interest owing to the unusual course which the disease took and the rapid way in which the symptoms developed.

CASE 1.—The patient was a young and apparently healthy country girl, aged 17 years, who was in domestic service in Birmingham. The history of the onset of her illness, as given by Mr. A. E. De Vall of Saltley, with whom one of us saw the case in consultation, is as follows. On March 29th she went to see him, complaining of sore and congested but not ulcerated throat, vomiting, and pains in the limbs and in the back of the neck. The clinical picture was typical of influenza. Three days later he saw her at home and found her about the same but with the addition of headache and constipation. On the next day the vomiting ceased but pain over the bladder was complained of. On April 4th she still had pain over the bladder, and the lower limbs seemed very tender and she did not seem able to move them freely but there was no suggestion of any paralysis. The temperature was 100° F. For the next six days she remained in much the same condition and enteric fever was suspected as the spleen was enlarged slightly, the temperature oscillating between normal and 100°, and the patient being at times delirious. The pains had ceased in the arms but there were still pain and tenderness in the legs. On April 10th, 13 days after the onset of her illness, the tenderness of the legs increased and she could not move them without great pain. On the following day retention of urine supervened and the bowels were moved involuntarily and she became more drowsy and apathetic. On the 13th she had a slight convulsion involving the right side only which lasted some few minutes and was followed by unconsciousness for half an hour. A report upon the blood had been received from a trustworthy laboratory and Widal's reaction was stated to be positive. The

diagnosis was now influenza or enteric fever complicated by meningitis and one of us again saw the patient on the afternoon of this day. She was a well-nourished girl. She was not fully unconscious and put out her tongue when told to do so, but was unable to answer questions other than the very simplest ones. She resented any passive movement of her head, especially any forward bending of it, which caused great pain. No definite paralysis of the arms and legs could be detected apart from her weakness and drowsiness. There was considerable tenderness of the legs but they could be moved without much pain so as to test for Kernig's sign which was slightly present on the right side but not on the left. Examination of the ears showed some congestion of the membranes with serous effusion but no suppuration. The pupils were dilated and equal with a sluggish reaction to light. There had been no complaint of any numbness or alteration of sensation and she was not conscious enough for any careful testing of the sensibility. On the evening of this day (April 13th) she was removed to the General Hospital, Birmingham, a distance of some two miles, and on her reception there it was found that there was complete paralysis of both legs with flaccidity and complete anæsthesia below the umbilicus except on the outer side of the left leg. On the left side the knee-jerk was absent and the plantar reflex extensor. On the 14th she was in much the same condition, semi-delirious, but at times was able to answer questions rationally. There was no paralysis of the arms and the grasp was good on both sides, and sensation was good above the ninth dorsal segment. On the 15th the arms became paralysed and the respiration suddenly began to fail, ceasing within an hour from the first onset of dyspnœa and cyanosis. The heart was acting well five minutes before the cessation of the respiration, but it ceased beating two minutes later in spite of artificial respiration.

The case clinically when first seen was to all appearance one of influenza complicated by meningitis and the acute ascending myelitis. The positive Widal's reaction seemed in all probability to be an error. In the General Hospital some days later the reaction was negative.

Necropsy.—The post-mortem examination was held on April 16th. The whole body was examined. There were some catarrh of the small intestine and some slight enlargement of the mesenteric glands but neither by the naked eye nor microscopically was any evidence of tubercle found. The liver, spleen, and kidneys appeared congested and the heart muscle was pale. On opening the dura mater the spinal cord was found to be slightly adherent to the pia arachnoid by means of a sticky exudate. The pia arachnoid throughout the cord was opaque and grey in colour. Some of the vessels appeared congested when cut across but as a rule they showed themselves on the surface as thickened white lines. The nerve roots were also thickened. The white matter of the cord, especially in the upper cervical region, was soft and almost fluid. The line of demarcation between grey and white matter was indistinct. The grey matter was pale and soft. Portions of the cord fixed in formalin were cut in paraffin and stained with various methods. Other portions after three days' fixation in formalin were treated according to Marchi's method. The following is a record of the microscopic appearances:—With regard to changes in the pia-arachnoid, there was a well-marked distension of the smaller vessels of the membranes and nerve roots, but the larger ones, both arteries and veins, showed a striking inflammatory thickening of their outer coat and in places also of the middle and inner coats. The thickening was due to the presence of large numbers of cells, chiefly large with a fair amount of non-granular protoplasm; there were also small round cells and a few polymorphonuclear leucocytes. In places the cells were so arranged as to form typical tubercle follicles and, rarely, giant cells were to be found in their centres. In other places the cells were seen to be in process of breaking down and forming areas of necrosis. Tubercle bacilli were to be found both in the cellular and in the necrotic areas but they were not numerous. There was also a well-marked cellular infiltration of the sheaths of the nerves, the cells being chiefly of the lymphocyte variety and penetrating between the individual nerve fibres. Marchi specimens showed well-marked degenerative changes in the nerve roots. Outside the vessels and nerves there was also a well-marked cellular infiltration of the membranes but an even more marked accumulation of a coagulated material which did not as a rule give the staining reaction of fibrin. In the meshes of these coagula there were large numbers of cells, a considerable proportion of which were polymorphonuclear leucocytes. As to changes in the white matter, there was a dilatation of the small vessels entering the cord and, in addition, a marked accumulation of cells, chiefly mononuclear, round them. There were also accumulations of inflammatory cells at the margin of the white matter independent of blood-vessels. There was some evidence of degenerative changes in the myelin sheaths of the fibres in specimens stained with haematein and van Giesen but in the Marchi preparations this change was found to be well marked and diffuse. As to changes in the grey matter, in suitably stained preparations the ganglion cells showed degenerative changes of all degrees. In Marchi preparations the fibres of the grey matter also showed extensive degeneration. The brain weighed 43 ounces. On removing the organ a marked accumulation of turbid fluid was found at the base. Some of this was drawn off with proper precautions and examined by cultural and film methods. Cultures were made on agar, blood agar, and on nasgar, but there was no growth in any of the tubes. Films stained by Gram's method and by carbol-thionin showed no evidence of any organisms. The cells present in the exudate were chiefly polymorphonuclear leucocytes and large endothelial cells. Films were not stained by the Ziehl-Neelsen method. This turbid fluid in the subarachnoid space extended over the cerebellum and up the Rolandic fissure on either side. On the vertex the vessels of the pia mater were injected but there was no obvious exudate. Nowhere were there distinct tubercles to be seen. The vessels of the pia arachnoid towards the base were pale as in the cord. With regard to the microscopic appearances, the cerebellum pia arachnoid showed infiltration with inflammatory cells, more marked around the vessels. There were a few giant cells and some caseous areas. In some places the white matter of the cerebellum was infiltrated with cells. The pons showed a similar condition with extensive infiltration of the pia arachnoid and implication of the white matter. Portions of the cortex from the Rolandic area on the left side and from the vertex on the right showed similar appearances but less marked. Microscopically the kidneys showed a condition of early catarrhal nephritis. The liver showed an acute hepatitis with cloudy swelling and separation of the liver cells from one another, also infiltration of the portal tracts and lobules with inflammatory cells. The intestine showed acute catarrh but in none of the organs were tubercle bacilli. Examination of the middle ears showed no evidence of inflammatory changes.

The above case is one of tuberculous meningitis and myelitis. Its chief interest pathologically is in the fact that to the naked eye the appearances were not suggestive of tubercle. There was no obvious point of entrance found, but too much stress cannot be laid on that, as one did not examine every joint and bone. At the same time, the case appears to be one in which the meninges were the point primarily affected, the changes in the nerve roots and in the white and grey matter of the cord being relatively insignificant and apparently secondary.

CASE 2.—This case, although one of acute cerebro-spinal meningitis of tuberculous origin, was clinically one of cerebral meningitis, tuberculosis being from the symptoms quite a probable diagnosis. The presence of double otitis media in this case raised the possibility of a local origin for the cerebral condition, and therefore an exploratory trephining was done but without definite result. The patient was a boy, aged seven years, who was admitted to hospital with frontal headache and vomiting, and a temperature of about 101° F., the illness having lasted seven days. This illness began with vomiting and pains in the head. He was not seen by a medical man till the ninth day and then his condition was so suggestive of enteric fever that he at once sent him to hospital. For the first few days in hospital no nervous symptoms showed themselves, except the headache and the vomiting, which was of cerebral type, and also absence of both knee-jerks. There were some bronchitis and symptoms suggestive of damage to the left lung resulting from a severe attack of pneumonia which he had when two years old. There was suppurative otitis media with perforation of the left membrane and the right ear showed signs of inflammation but no suppuration. On the fourteenth day of his illness twitching of the left arm and leg and left side of the face commenced and soon developed into a unilateral convulsion with only slight involvement of the right side. This was followed by unconsciousness and dilatation and inequality of the pupils. Kernig's sign and rigidity of the neck were also present and

lumbar puncture showed increased pressure and signs of spinal meningitis. As the patient was rapidly getting worse and there were signs of increased intracranial pressure he was trephined on the right side, above and behind the ear. Nothing beyond the increased intracranial pressure could be detected. He died on the following day and the post-mortem results were as follows.

Necropsy.—The post-mortem examination was held on May 12th. The whole body was examined. There was a trephine opening on the right side behind the ear. The lower lobe of the left lung showed collapse and dilatation of the bronchioles. The rest of the lung and the organ on the right side showed no obvious change. At the base of the left lung there was an enlarged gland with grey areas scattered throughout and one large necrotic focus. Microscopically the gland showed typical areas of giant cell formation and caseation. Tubercle bacilli were found in considerable numbers. The liver showed marked cloudy swelling with irregular paler areas scattered through it. The kidneys showed a similar condition. The spleen was enlarged, soft, and flabby. Microscopically these organs showed no change of special interest. The arterioles of the spleen, however, showed hyaline degeneration. With regard to the spinal cord, on opening the dura mater a large amount of turbid fluid was found. On microscopic examination polymorphonuclear and mononuclear leucocytes and endothelial cells were found in large numbers, also a few tubercle bacilli. The pia arachnoid was pale and the vessels appeared thickened but there were no tubercles. Sections of the cord showed well-marked inflammation of the pia arachnoid. There was exudation of a fibrinous-looking fluid containing numerous cells, chiefly mononuclear, but also polymorphonuclear. The cellular infiltration was most marked around the vessels and nerves. In places the cells were aggregated into definite tubercle follicles with occasional giant cells. Not infrequently the nerve roots were seen invaded by such cellular areas. Tubercle bacilli were fairly numerous in the giant and epithelioid cells. The white matter of the cord showed some cellular infiltration towards the periphery but this was not so marked as in the previous case. Early degenerative changes were to be found in the cells of the grey matter. Marchi specimens showed disseminated degenerative changes in the nerve roots and towards the periphery of the white matter but these were not nearly so marked as in the previous case. As to the brain, on opening the dura mater the convolutions were found much flattened and the vessels injected. There was a great excess of turbid fluid towards the base of the brain. There were irregular areas of opaque exudate to be seen in the subarachnoid at the base extending up the Rolandic fissures on either side and also over the vertex. The ventricles were distended with turbid blood-stained fluid. For microscopic examination portions were taken from both Rolandic areas, from the vertex, the cerebellum, and the pons. All showed a well-marked meningitis with sero-fibrinous exudate containing numerous cells with occasional areas of necrosis. Tubercle bacilli were found in these. No giant cells were found. There was some degree of cerebritis immediately under the pia arachnoid. Both middle ears contained sero-purulent fluid. Suitably stained preparations showed numerous diplococci but no tubercle bacilli.

The second case is somewhat similar to the first but the changes are more marked in the brain than in the cord. Further, there is a source of infection in the caseous bronchial gland and probably also in the middle ear.

The reports of the post-mortem examinations are by Dr. J. Miller.

Birmingham.

OBSERVATIONS FROM THE SOUDAN.

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I.—MEMBRANOUS ULCERATION, DUE TO SPIROCHÆTÆ, SIMULATING DIPHTHERIA.

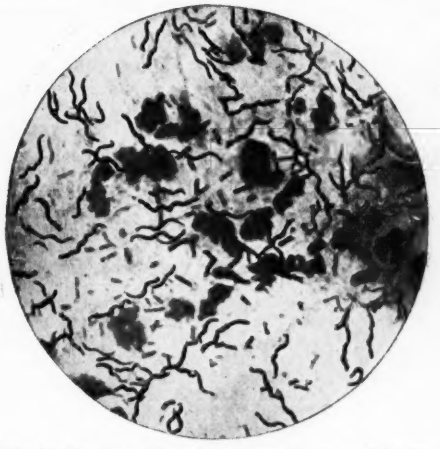
THE words "due to spirochætæ" appear in the heading of this article, though perhaps they should be replaced by the expression "associated with the presence of spirochætæ" as I have not yet attempted to produce the condition artificially, and so it cannot be stated definitely that spirochætæ are the exciting cause. However, there is good reason for considering that this condition is caused by spirochætæ in that they appear in enormous numbers in the swabs taken from the ulcerations and in some cases practically in "pure culture," though always associated with the bacillus fusiformis. Some films show such vast quantities, twined and matted together, that only at the periphery is it possible to examine individuals carefully.

The condition resembles closely, or is the same as, that described by Vincent[1] in 1898, but these cases seemed worthy of being placed on record for three reasons: first, this condition has not, as far as I know, been reported from this region; secondly, four similar ulcers in the buccal cavity and three (?) from the conjunctival sac are here described; and thirdly, there are certain differences between the three tonsillar cases and those reported by Vincent.

These differences are now given: 1. Fœtor was evident in his cases, while this was absent in all enumerated in this article. 2. His cases were practically all unilateral, while two out of three were bilateral. This point is of importance, for H. W. Bruce[2] states that mild cases are invariably unilateral. 3. Vincent mentions that bacilli fusiformes were sometimes unassociated with spirochætæ and often outnumbered them. In these cases the two were always associated with one another and the spirochætæ usually enormously outnumbered the bacilli. 4. Pyogenic cocci were almost invariably present in his cases, while in several cases of this series the infection was practically pure with spirochætæ and bacilli fusiformes. 5. He mentions extension to the soft palate and uvula, and in none of my cases was this present, perhaps owing to the cases being seen early in their course. 6. Vincent makes no remark about the urine, but Bruce mentions albuminuria in one out of ten of his cases. Albumin was present in two out of the three cases of tonsillitis mentioned in this article.

The number of cases is small and contains the following types: (*a*) Tonsillitis—(1) unilateral, one; and (2) bilateral, two. (*b*) Ulcers in buccal cavity—(1) opposite the last molar tooth of the lower jaw, three; and (2) in front in the lower fold of the mucous membrane, one.

The best way of describing this condition will be to give a *précis* of one case. An Egyptian nafar (soldier), aged about 23 years, reported sick with a sore throat. He stated that he had had a sore-throat for about 24 hours but beyond that made no complaint. On examination a thick yellowish-white membrane of about the size of a sixpenny piece was found adherent to the left tonsil. On removing the membrane a bleeding surface was exposed, showing considerable destruction of the underlying tissues. The ulcer thus formed was deep with ragged edges. The glands behind the left angle of the jaw were slightly enlarged and tender. The pharynx was not generally inflamed to any marked degree. His temperature was 100° F., his pulse-rate



Reproduction of a micro-photograph of a pure infection stained by methylene blue. Many spirochætæ in the field did not appear on the negative. The bacilli are bacilli fusiformes. No large clumps of spirochætæ appear in this field. The photograph was taken by Sergeant A. Gibbons, R.A.M.C. Objective $\frac{1}{12}$; ocular No. 8.

[1] Sur une Forme Particulière d'Angine Diphtéroide, H. Vincent, Archives Internationales de Laryngologie, d'Otologie, et de Rhinologie, Jan. et Fev., 1898.

[2] H. W. Bruce: Vincent's Angina, THE LANCET, July 16th, 1904, p. 135.

was 91, and these with the local condition made me diagnose the case as one of diphtheria. He showed no other signs of disease, especial attention being paid for those of syphilis. He had had no vomiting, declared he had suffered from no similar attack and knew of no others with a like illness. I gave orders for the man to be isolated at once in a tent and was much surprised at the indifference with which the Egyptian medical officer, who had had considerable experience in the Soudan, looked upon the case. On questioning this officer he stated that he had often seen such throats, that they were only slightly infectious, and that they were not diphtheria, indeed that diphtheria is seen but rarely in the Soudan. However, in spite of this the soldier was isolated. The urine was examined and found to be acid, of specific gravity 1020; albumin amounted to $\frac{1}{8}$th but no sugar was found; microscopically some red and white corpuscles were seen but no bilharzia. The presence of the albumin made me still more convinced about the correctness of my diagnosis. Several slides were made from a swab and on examination presented much necrosed tissue with leucocytes, an enormous number of spirochætæ, many bacilli fusiformes, and a very few cocci, some in chains, some in clusters. There were no diphtheria bacilli. Some more slides were made and stained by the following methods: (1) Methylene blue; (2) Leishman's stain; (3) carbol-fuchsin; and (4) Neisser's stain. One film was stained with warm carbol-fuchsin for 20 minutes, decolourised with 1 per cent. sulphuric acid, and counter-stained with methylene blue, with the result that some free round or slightly oval bodies with a few oval, clearly defined masses in the bacilli fusiformes retained the carbol-fuchsin, though all the rest was thoroughly decolourised and took up the methylene blue satisfactorily; these bodies stained as, and had the appearance of, spores. Vincent found no spores, though many vacuoles, in the bacilli; however, I firmly believe that genuine spores were present, but the matter requires further investigation before anything definite can be stated. Cultures on agar smeared over with serum were made but showed no diphtheria, and the spirochætæ were in various stages of degeneration and disintegration. The blood appeared normal, there was no leucocytosis, and no bacteria or spirochætæ were found in the films examined.

The patient was given an aperient and an iron tonic, and the ulcer was locally treated by swabbing with carbolic 1 in 20 three times daily, a potassium chlorate gargle also being used frequently. On the following day the temperature was 99° and the local condition had improved. The patient had no further elevation of temperature and was quite convalescent after five days, when he was discharged back to his battalion. The urine on discharge showed no trace of albumin and no bilharzia had been found during his five days' stay in hospital.

In all the other cases the membrane had the same thick yellowish-white appearance and left a ragged bleeding surface on removal. All healed readily under appropriate treatment, except one ulcer opposite the last molar tooth which, there were reasons for thinking, was not having proper attention paid to it, for when the swabbing was properly and energetically carried out, the ulcer healed within a week.

In the cases where the tonsils were affected the temperature was only raised to 100°–101°, while in the subjects with ulcers in the mouth the temperature only reached 99°–100°, probably due to the part being less vascular and so the absorption of toxins was less pronounced. Albumin was present in two out of the three cases where the membrane was situated on the tonsils but was absent in those situated on the buccal mucous membrane. The ulcers around the last molar were not associated with decay of that tooth and in all the cases dental caries was slight or absent and the teeth were in a clean condition. The cases of tonsillitis occurred separately and must be, I think, very slightly, if at all, infectious. There was a slight epidemic of follicular tonsillitis, 12 men, all coming from the same barrack-room, reporting sick one morning, but though several cases were examined microscopically I could find neither spirochætæ nor bacilli fusiformes, only many cocci such as one meets in the ordinary cases of follicular tonsillitis.

The spirochæta differs from the spirochæta pallida in the following points: (*a*) it readily stains after from two to five minutes; (*b*) it is considerably thicker and bigger; and (*c*) it has fewer and coarser curves, which usually number from three to six. The length varies from 15 to 25 or 30 μ, the ends are tapering, and it is perhaps the spirochæta buccalis. Some individuals seemed to be undergoing transverse fission but none showed any signs of longitudinal division. I could not distinguish any signs of an undulating membrane but some had one or more dots apparently chromatin. The spirochætæ were not only found on the surface of the membrane but also in the deeper layers after it had been removed, though present in fewer numbers.

These cases occurred during the hot weather and no cultures were attempted except a few on agar smeared with serum, which were kindly incubated for me by Dr. Andrew Balfour at the Wellcome Research Laboratories; in none of these were diphtheria bacilli found and the spirochætæ showed no signs of further development but were degenerated and undergoing disintegration. The spirochætæ were associated in all cases with the bacillus fusiformis, and this is worthy of note in that the same combination is frequently found in primary syphilitic lesions, in pyorrhœa alveolaris, and in Vincent's angina.

Though careful search was made for the bacilli changing into spirochætæ the only points noted were that a few bacilli had the chromatin mass at one end and the blue body seemed drawn out into a long tail which took up the red colour with Leishman's stain; further, some bacilli seemed more or less degenerated with the chromatin more or less scattered and in these cases the bodies tended to take up the red colour rather than the blue. Whether there is any direct relationship between these two or only a condition of symbiosis has yet to be definitely decided.

Besides the cases already mentioned there were three others with similar membranous ulcerations in the conjunctival sac occurring mainly on the parietal membrane, and all, without exception, in the lower sac. These cases were not included in the list, for although smears were taken and set aside only one slide was examined, and that casually, and found to contain spirochætæ in profusion, while the others were unfortunately mislaid and lost owing to my having to leave Khartoum suddenly and on my return I was unable to find them. However, although spirochætæ were present in one (whether associated with the bacillus fusiformis I cannot remember), yet I fully believe all the others had spirochætæ, as the membrane had the same characteristics, thick, yellowish-white, which on removal left a bleeding surface—to the naked eye entirely like the conditions already described. Unfortunately, the urines of these cases were not tested.

II.—INTRACTABLE, SLOW-SPREADING, DESTRUCTIVE ULCER OF THE PENIS.

Three such cases have come under my observation, one going on to the complete destruction of the penis, the other two to considerable loss of substance (from 1 to 2 inches). All the cases occurred in Soudanese. The ulcers were large (the smallest at least of the size of a shilling) when the patients came under treatment and were situated on the glans penis or in the preputial fold. The first case was under the treatment of Captain S. L. Cummins, and I only saw the end of the disease after practically the whole of the penis had been destroyed; the other two cases were under my own care.

The ulcers had no covering slough, exuded a serous fluid, which was, however, at times slightly purulent; the edges were slightly undermined, though here and there raised, and the bases were indurated to a slight degree. They were practically painless, the lymphatic cords were not thickened, and the inguinal glands were but slightly enlarged. The patients showed no signs of syphilis, and although in hospital for several months exhibited no signs of this disease in spite of having no anti-syphilitic treatment.

The first case that I had from the beginning under my own observation was considered to be simply an enlarged, neglected, soft sore, but finding that week after week, in spite of all kinds of treatment, the ulceration steadily spread, destroying the surrounding and underlying tissues, including the urethra, it was found necessary to reconsider the diagnosis. Smears from these two cases were examined on several occasions, sometimes taken from the surface, sometimes after the superficial tissue had been scraped away, and were found to be composed of necrosed tissue, many cocci, mainly diplococci, and a large number of bacillus fusiformes. There were no bacilli giving bipolar staining similar to Ducrey's and no spirochætæ were found. There was no Giemsa solution, but "pallida" was stained for by prolonged Leishman's staining.

The various treatments employed were: 1. Dusting with boric or iodoform powder. 2. Hot boric fomentations every three hours. 3. Hip bath with perchloride of mercury solution ($\frac{1}{1000}$) three times daily for from one to one and a half hours at a time; on one occasion a local bath was used for 24 hours consecutively, at the end of which time the patient presented symptoms of poisoning (intestinal cramps, vomiting, and diarrhœa). 4. Lysol and carbolic baths. 5. Cauterisation with silver nitrate stick. 6. Very extensive scraping followed by swabbing with pure carbolic. 7. After all these methods had failed mercury and iodides with local antiseptic treatment were given without any results (second case.)

It spite of treatment the condition spread continuously and steadily and the first two cases seemed to get well owing to the destructive process coming to a natural end rather than to a termination procured through treatment. The third case came to hospital and proceeded just as the others had done, and after some weeks about one and a half inches of the penis had been destroyed and the only hope seemed to be that nature would step in and cause the process to end. Fortunately, a new Egyptian medical officer took charge of this ward, and he suggested trying turpentine. This was accordingly done, and the ulcer, which had been spreading imperceptibly but steadily for nearly one and a half months, began at once to present a more healthy appearance and was almost healed in a week. The oil of turpentine was applied on small lint pads to the ulcer. The oil of turpentine was probably old, but how old I cannot say, nor do I know whether it was American, German, or other particular kind; these points are mentioned because the properties of turpentine are said to vary both with age and with the species of pinus from which prepared. Perhaps the curative action was due to hydrogen peroxide, which turpentine produces with air in the presence of water. Unfortunately, no new cases have come under observation and so it is difficult to say whether the rapid healing was a coincidence or really due to the action of this drug; however, the Egyptian medical officer stated that he had treated other similar cases with this drug with like good results.

This seems worthy of recording, since the results of this type of ulceration are appalling, and if met with in other parts of the world the treatment by turpentine (or perhaps hydrogen peroxide) might be of great value.

Very few cases of phagedæna of the penis have come under my observation and none in the Soudan, and in these the condition was very rapid, showing much sloughing; the patients were debilitated and presented symptoms of toxic poisoning. These cases presented an entirely different picture, the destructive process continued imperceptibly but steadily week by week, and in the first patient month by month; the patients were not debilitated, and showed practically no signs of toxic poisoning.

In dealing with natives it is often difficult to know whether they are carrying out orders when one's back is turned, but in these cases the anxiety shown by the patients at the possible total loss of an important organ was very evident and there was no reason to believe that the various treatments were not thoroughly and conscientiously carried out.

I was unable to find out whether these ulcers resulted from sexual intercourse, but in all probability they did. Whether such a condition obtains amongst the female population I do not at present know.

There was no reason at any time in any one of these subjects to raise the diagnosis of epithelioma, and the subsequent course disproves such a condition. Further, malignant disease, from my own observations and from what has been told me by medical men of large experience in this region, is extremely rare amongst the natives of the Soudan.

THE BRISTOL GENERAL HOSPITAL.—The half-yearly meeting of the governors of the Bristol General Hospital was held on Sept. 9th under the presidency of Mr. J. S. Fry. The chairman stated that the daily average of in-patients for the past six months was 180·6, the highest on record. The financial statement was satisfactory. £16,210 have been received towards the special appeal made for the sum of £18,000 which was required for carrying out several much-needed improvements in the institution. The chairman alluded in sympathetic terms to the great loss which the hospital had sustained through the death of Dr. E. Markham Skerritt, whose "life had been well and wisely spent."

IRREGULARITY OF THE PULSE IN DIPHTHERIA.*

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THE well-known occurrence of heart symptoms in diphtheria naturally leads the practitioner to pay special attention to the pulse, with the result that many a casual observer has regarded the frequent occurrence of irregularity as the most striking feature of the pulse in diphtheria. It will be shown that this fact has, however, little special significance and is really due to the great incidence of the disease in children, especially those of from four to five years of age, who appear commonly to exhibit this symptom after any febrile disturbance and often in apparent health.

An examination of the literature of diphtheria will impress one with the great importance attached to this sign wherever and whenever it occurs. It never seems, however, to have occurred to writers or clinical observers to doubt but that all irregularity of the pulse was the specific effect of the disease in question. No notice has been taken of the fact that it is so common in other diseases of childhood, and its comparative absence in adult cases seems to have been passed by without comment. All forms of irregularity being thus grouped as of an equally serious nature, it will be understood that some have gone so far as to suggest that patients should be kept in bed at least three months should any irregularity continue.[7] Estimates as to the percentage occurrence of irregularity of the pulse in diphtheria differ widely. Hibbard,[2] in a review of 700 cases, gives 10 per cent., but adds that "some cases were doubtlessly not recorded." The usual quotation is, however, much above this figure, and Villy,[3] who carefully followed out 177 cases, found it as high as 87·5 per cent. That this does not overshoot the mark is suggested by my own observations in 92 cases laboriously examined throughout the stay in hospital; over 80 per cent. were found to have had at some time definite irregularity. The wholesale occurrence of this sign at once suggests the inquiry as to what extent it might be attributed to specific affection of the heart.

In order to determine this point a comparison was established between cases of diphtheria and scarlet fever. This might be considered an instructive comparison, since there is a great contrast between these diseases as regards their cardiac effects. Scarlet fever does not seem to have much effect upon the myocardium if we are careful to select those cases only where the temperature falls in seven or eight days with no complications. So that with such a selection the toxin of each disease has acted for a similar time. When the temperature is sustained, as it often is, for a much longer period, and especially with adjacent pericarditis and endocarditis, there is then the real danger of serious myocarditis in scarlet fever. Pathological findings seem to confirm this view. A comparative investigation has recently been made by Aschoff[4] and Tawara of the changes in the heart wall in 112 cases taken from 13 different diseases. "Amongst these different groups of diseases it was only in the cases of diphtheria that at all regularly distributed parenchymatous modifications were found. In the cases of scarlet fever, measles, tuberculosis, &c., no alterations worth mentioning were found. In our typhoid cases in particular we practically failed to find any interstitial reaction contrary to the published statements with regard to the frequency with which myocarditic alterations occur in typhoid." This quotation is interesting as establishing a comparison between diphtheria and the other infectious diseases in the intensity of the cardiac affection and is the more valuable as the work was all done by one individual. In comparing the two diseases 92 cases of diphtheria and 95 of scarlet fever were taken consecutively from those that recovered in the order of admission into hospital after excluding protracted cases of the latter disease and those with pericarditis and endocarditis. They were arranged in two groups according as the pulse had been "regular" or "irregular" at any period throughout the disease. An easy standard was taken for the first group; those pulses that had been noted as slightly irregular on two or three occasions only were classed as "regular." All others were classed as "irregular." The

* The superior figures refer to the bibliography at the end of the article.

result of the investigation showed almost identical results for the two diseases. Amongst those aged five years and under none were found "regular." Amongst those over 25 years of age none were found "irregular." In the age periods between 5 and 25 years the irregularity decreased in proportion to the age, but of the two diseases the greater frequency of irregularity was actually exhibited by the scarlet fever cases.

Cases of Diphtheria.

Ages (inclusive).	Number of cases.	Regular pulses.	Irregular pulses.	Percentage incidence of irregular pulses.
Ages 1-5 years.	44	0	44	100
,, 6-10 ,,	28	6	22	78
,, 11-15 ,,	8	4	4	50
,, 16-21 ,,	6	3	3	50
,, 22 upwards.	6	5	1	16
Totals	92	18	74	80

Cases of Scarlet Fever.

Ages (inclusive).	Number of cases.	Regular pulses.	Irregular pulses.	Percentage incidence of irregular pulses.
Ages 1-5 years.	37	0	37	100
,, 6-10 ,,	34	3	31	91
,, 11-15 ,,	10	5	5	50
,, 16-21 ,,	5	2	3	60
,, 22 upwards.	9	7	2	22
Totals	95	17	78	82

Several cases of diphtheria and scarlet fever in the first age-group were found to have had only very slight irregularity.

This practically equal result, then, from two diseases with widely different cardiac effects suggests the exclusion of the heart as a factor in the causation of this sign. Further, the occurrence of the sign will be found to be little more than physiological in its significance; in the bulk of cases this irregularity is the regular variation in force and frequency of the pulse to which the term "pulsus paradoxus" is applied by some authors, occurring in healthy adults only on forced inspiration and expiration, but tending to occur frequently in apparently normal children, especially when asleep. This respiratory irregularity of pulse was met with in every degree; from the just perceptible variation of rhythm up to instances where the pulse-beat occurring as expiration begins, hangs—as if failing the due arrival of another inspiratory effort the heart must stop altogether; the ratio of the number of beats during inspiration and expiration being more than 3 to 1 in these cases.

A brief inquiry into this phenomenon is necessary in order to show that there is really nothing specifically cardiac in its causation. It is fully discussed by Wenckebach[5] in his work on "Arhythmia of the Heart"; he concludes, with Lommel, that "this phenomenon is clinically, as well as experimentally, purely of nervous origin; for it is not a typical symptom of any organic disease of the heart, but it is one of neurasthenia; at the same time we do not mean that it cannot occur in cardiac disease. We are bound to assume the cause lies in an excessive susceptibility in the inhibitory centre of the vagus." As regards "the mechanism by which this is produced—the most likely view is that the rhythmical stimulation of the respiratory centre has a rhythmical effect on the vagus centre, so that as the respiratory centre becomes active, the tone of the vagus centre is diminished and *vice versâ*." Sir James Barr,[6] on the other hand, in a recent article specially dealing with this subject, believes the solution rests on a less hypothetical foundation. He finds a sufficient explanation in the mechanical effect of the respiratory act upon the circulation. "The pulsus paradoxus is due to one or both of the two following causes, namely, defective filling or rapid emptying of the arteries. In the former case a weak right heart and a large lung reservoir are important factors, and in the latter a good respiratory pump and low blood pressure are the causal agents." With this explanation it can be understood that this irregularity may occur in health. For example, other factors being normal, an exceptionally well-developed chest and lungs may be sufficient to produce it. In disease doubtless it is the other factor which is the all-important one—the fall in blood pressure. Wenckebach's remarks on neurasthenia will also fit in here, for in that condition or, better, in a state of asthenia we have the same thing—a relaxed condition of the body and vessels. The phenomenon is, however, sometimes so capricious in its appearance and disappearance that one feels tempted sometimes to give it the obscure functional nerve origin suggested.[11]

In carefully following, then, about another 100 cases that recovered in each disease, the irregularity before noticed was found to be almost constantly respiratory. A distinction must then be drawn between this respiratory and what may be termed "true" irregularity, which latter undoubtedly occurs in diphtheria. For amongst the cases ending fatally in this disease many exhibited true delirium cordis for a few hours up to several days before death. Leaving this part of the subject for the time being we will turn to consider what percentage of true irregularity may be found in non-fatal cases. In the first place we might include a few cases of delirium cordis, if it be allowed that it is not invariably in the early weeks of the disease a sign of a fatal issue. There were, however, no instances in the hundred cases examined. Later in convalescence, nevertheless, it may occur along with dilatation from accidental strain, but soon passes away in favourable cases. There were, however, a few cases with marked respiratory variation which appeared to have an added tendency to irregularity apart from this; and these might also be included. Still, a judgment on such a matter should not be too hastily given, for it is surprising how easily one may mistake a case of well-marked respiratory irregularity for one of true arhythmia. In making an observation the eyes should always be fixed on the chest and the respiratory movements carefully noted along with the changes in the pulse. Even where the respiratory variation is the only irregularity present, the effect is often a very confused one in a slow pulse. This is owing to the fact that where the phenomenon is well marked there are two strong tendencies alternately supplanting one another, the one during inspiration to quicken the pulse, and the other during expiration to slow it. In changing over from one influence to the other there is a liability to a jumbling or hesitancy of rhythm, especially where the pulse intervals are not exact multiples of the respiratory periods. But towards the end of inspiration or expiration, or particularly if these are voluntarily prolonged, the pulse is found to have settled down to a regular beat, which again serves to show that intrinsically, as far as the heart itself is concerned, it is essentially regular, but owing to mechanical extra-cardiac causes there is one rate for inspiration and another for expiration. Other more curious effects are sometimes produced when both the slowness of the pulse and the tendency to respiratory variation are very marked. One little patient (a case of scarlet fever with no obvious cardiac lesion) exhibited a typical bigeminal pulse for some minutes, which after a time changed to a trigeminal one and then back again to the original. The paired beats coincided with inspiration and the pauses with expiration.

In this way the percentage occurrence of true irregularity in non-fatal attacks may be reduced to only a few cases in a hundred—a small one compared with that usually given. As regards fatal cases, which number about 7 per cent. of all,[1] delirium cordis perhaps occurs in more than half—i.e., before the patient is actually *in articulo mortis*. The total occurrence of true irregularity of the pulse in diphtheria will still, however, be less than 10 per cent.

When the above results were recorded in a thesis on diphtheria I was not able to obtain Villy's paper previously referred to on Vomiting and Cardiac Failure in Diphtheria. Since then I have gained access to it. He tabulates his results on the occurrence of cardiac irregularity in 177 cases. This table—with which previously I was altogether unacquainted—so strikingly resembles my own in all essentials and so admirably bears out my own contentions that it is also inserted for purposes of comparison. In the first place, the total percentages are alike—over 80 per cent. in both; but his inference that all this is to be taken in a general way as indicative of a tendency to cardiac failure is evidently erroneous. The

The Results of Observations on 177 Cases of Uncomplicated Diphtheria with regard to the Presence or Absence of Cardiac Irregularity and to the Date of Onset (Villy).

Ages (inclusive).	Number of cases.	Regular.	Irregular.	Percentage incidence of irregularity.
Ages 1–4 years.	67	5	62	92·5
,, 5–9 ,,	63	1	62	98·4
,, 10–14 ,,	22	1	21	95·4
,, 15–19 ,,	9	2	7	77·7
,, 20, 21, &c.	16	13	3	18·7
Totals	177	22	155	87·5

Average date of onset 17·7 days.

decrease in irregularity with increase in the ages of the patients is clearly demonstrated in both—adults being almost exempt. The latter fact did not altogether escape Villy, since he adds "the number of adult patients is somewhat small to draw any certain conclusions from." This reservation is, however, quite unnecessary since my tables add additional testimony to the fact, as well as the experience of several hundred other cases. Neither the scarlet fever nor the diphtheria cases listed exhibited repiratory irregularity (with quiet breathing) in those over 25 years of age. The fact is plainly evident from these three tables that the particular variety of disease has got very little to do with the question, and a bald statement of percentage occurrence of irregular pulse in diphtheria might be said to point to nothing but the comparative numbers of patients at the different age-periods, and to be innocent of any serious cardiac implication.

This view of the case is in accord with the well-established fact that true irregularity of the pulse where myocarditis is in question must always be regarded as a very grave sign indeed. It points to the utter disbandment of the four "myogenic" forces of the heart wall. Towards the end of the first fortnight of diphtheria death usually takes place by sudden dilatation of the heart accompanied by delirium cordis. At this time these signs almost invariably point to a fatal ending. The irregularity here is unmistakeable in type—a staggering disorderly beat, completely independent of the respiratory act. As convalescence progresses the heart wall, however, shows itself more and more resistant to the forces of dissolution. Intermittence of the pulse is another sign which "seems to point to serious involvement of the myocardium."[9] It is a significant fact that its percentage occurrence is also a small one. Hibbard[2] gives 3 per cent. I have not found more than 4 per cent. in 300 cases. They are generally those of a severe type. In cases developing favourably intermittence usually disappears in a week or two. The fact that it does this and does not hang about for months and years like the spurious irregularity of the pulsus paradoxus points to the really serious import of the sign, which disappears with the repair of the myocardium. We can be sure that when intermittence and true irregularity of the pulse are present in diphtheria they are generally there on matters of grave import to the patient—to depart when the more serious aspect of the case has disappeared. Again, intermittence is generally regarded as the first beginnings of irregularity, the latter showing a more advanced stage of the cardiac disorder. Thus Broadbent[10] says, "irregularity of cardiac action is more serious than intermission." Since then intermission occurs in only about 4 per cent. of cases it seems more than likely that a not much larger percentage can be claimed for true myocardial irregularity.

An attempt is generally made to state a period in the disease when the pulse becomes irregular and again a period when it may be expected to lose that quality. For instance, Bolton[7] speaks of the irregularity generally commencing in the second week, and Villy[3] goes so far as to estimate an average time of onset—17·7 days. This gives a serious aspect to what is really a harmless event capable of a very simple explanation. For it happens that in a case of moderate severity the temperature falls just about this time and along with it the pulse, which now enters the bradycardial stage so typical of this period of the disease. With the bradycardia comes the respiratory irregularity of the pulse; and not till then, because by the rule governing the appearance of respiratory irregularity the latter is not exhibited in a relatively accelerated pulse, while relative slowing increases the tendency to its occurrence. The latter fact Wenckebach[5] has noted in the following paragraph: "Winkler observed that when the frequency of the pulse is raised during mental exertion the difference in the period length is almost completely abolished, while it becomes very marked again during the rest after the mental work, as the pulse becomes correspondingly slower." I have known cases where the respiratory irregularity was so marked as to lead one to believe there was an admixture of true irregularity, develop a perfectly regular pulse in the acceleration due to a slight intercurrent tonsillitis. In contrast with this it will be remembered that acceleration of the pulse by vigorous exercise is used as a test to best bring out any suspected tendency to true myocardial irregularity. Here is an essential difference. We need not stay to discuss whether the former phenomenon is due to the acceleration of pulse or to the increased blood pressure accompanying it. The latter is no doubt the main consideration, and here Sir James Barr's explanation fits in very well; as do also Wenckebach's remarks about neurasthenia. For about the end of the first fortnight the typical case of diphtheria falls into a depression of subnormal temperature, slow pulse, and low blood pressure (the latter I have ascertained by proper instrumental measurements).

Here, then, are the ideal conditions for the development of the pulsus paradoxus, and in probably no other disease are they more ideal. Consequently marked examples occur perhaps more often in diphtheria, although the phenomenon itself can hardly occur more frequently, seeing that the former is mostly a disease of children. Moreover, for reasons which would prove very interesting to discuss, in some of the worst cases of diphtheria, bradycardia is absent, the pulse-rate being well sustained. Here, where most irregularity of the pulse might be expected, none is found unless occasionally that of myocardial causation. Some may, however, still urge that the bradycardia and respiratory irregularity must have some relation to the severity of the attack, and therefore it may be maintained that this irregularity still furnishes a useful prognostic guide. There is a limited amount of truth in the first contention, but the bradycardia is always the more important prognostic indication, the patient on no account being allowed up till the tachycardial reaction is well established. Any respiratory irregularity still continuing at that time would be ignored. And in fact it is always a secondary matter and could be easily dispensed with as a prognostic sign, the exact cardiac condition being read from other much more reliable data. The tension of the pulse, for example, is, on the other hand, a sign of very real importance.

It might then be supposed that when the body draws out of the bradycardial depression and the tachycardial period supervenes respiratory irregularity of the pulse should disappear, but this is not the case. For there is a great range of pulse-rate at this time throughout the 24 hours, from 64 to 120 being not uncommonly met with in children. The pulse then tends to be regular at the period of greatest acceleration, with marked irregularity in the period of relative slowing. Now it has been the custom to attribute everything irregular in the behaviour of the pulse at this time to the influence of the vagus nerve, which has so often been found degenerated at this period. These alleged irregularities include: the presence of irregular pulse; the supposed irregular manner in which this irregularity comes and goes throughout the 24 hours; the marked changes or range of pulse-rate during the daily periods; and the frequent changes in the volume of the pulse. The first two have been explained by the effect of the change of rate where a tendency to the pulsus paradoxus is present. The change of rate itself does not, except occasionally, need the vagus influence to explain it, since it has often—though the connexion is not always clear—a basis on the daily movement of the temperature (or on some bodily state on which they both rest) which exhibits considerable daily spiking at this time, often rising above normal. A daily rise and fall of blood pressure is also more or less coincident with these. The changes in the volume of the pulse may also be explained by its usual relationships to alterations in the foregoing. One of the writers[7] mentioned above has again unwittingly furnished us with an illustration of the pulse at this period which is at the same time a

disproof of the contentions it was supposed to uphold. He apparently gives it as a typical instance of a diphtheritic pulse. It evidently belongs to the period we are discussing. The rate and regularity of the pulse were noted at short intervals of two or three hours throughout a 27 hours' period. The details are so fully given that little doubt is left but that it is no more than a case of respiratory irregularity in spite of the history of cardiac dilatation. The variation in rate from 120 down to 66 in the 24 hours is seen to be a more or less regular movement, consisting of one large wave and depression with a small reflowing wave at the intervening 12-hourly period. The pulse is marked "regular" at the maximum acceleration and "very irregular" at the minimum rate, with varying degrees of irregularity at the stages intervening. The same writer in another place shows that he also makes no distinction between the different forms of irregularity. In referring to the history of a former case he finds the pulse was irregular and on this concludes that the heart was specifically affected. No allusion has been made to the possible effect of a diseased vagus nerve in the earlier stages of diphtheria. Whatever effect it may have in producing true irregularity—though I believe the affection of the heart wall is the main consideration at this time—it has obviously no effect upon the frequency of occurrence of the pulsus paradoxus, as is evident from the above comparisons of different diseases and from the presence of the latter in health.

In most cases respiratory irregularity of the pulse in children persists throughout their stay in hospital—that is, for periods of from four weeks to as many months—especially in marked cases, although they have otherwise regained their normal state of health. There is, however, always a great tendency for it to grow less with the return to the normal vascular tone and, as might be expected, adolescents and adults are most likely to show improvement in this respect. Owing to the limitations of space I have refrained from giving instances of actual cases, numbers of which might have been produced to illustrate every point of this paper. I might add that from the knowledge of the capricious appearance and disappearance and persistence of respiratory irregularity of the pulse and from experience gained in hunting up old patients many months after discharge from hospital—cases of typhoid fever and scarlet fever, as well as diphtheria—I have much difficulty in taking seriously many of the cases described in the literature of the subject who are stated to have lost an irregularity of the pulse which they had exhibited during many weeks and months and on the disappearance of which they had been promptly discharged. I fear that many of these cases visited afterwards in their own homes would be still found with the same peculiarity of pulse for which they had been so long detained in hospital.

In conclusion, a proper understanding of this subject has an important bearing upon the prognosis and treatment of the disease. More than one writer has urged that the patient should be retained in bed for at least three months[7] if irregularity of the pulse continues. Should irregularity, however, be as unimportant as it has been shown to be in seven-eighths of all cases, it becomes rather a serious matter, economically and medically speaking, to keep a practically healthy child in bed for a month longer than is necessary, particularly as a condition of slight general asthenia is much more likely to disappear with exercise in the open air. Of course, it is none the less necessary first carefully to decide that the irregularity is no more than respiratory. The presence of cardiac signs will often help to decide this matter. Should these, however, be lacking, the pulse otherwise good and the patient apparently returned to health, he may be at once discharged, just as hundreds of such cases are discharged yearly from the various fever hospitals, assuredly none the worse for a due return to their normal state of life.

The results of observations upon patients in hospital are published with the kind permission of Dr. Philip Boobbyer, medical officer of health and superintendent of the isolation hospitals.

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Nottingham.

RESULTS IN APPENDICITIS TREATED BY THE IMMEDIATE AND COMPLETE OPERATION.

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IT is important to note that in spite of the prevailing severity of appendicitis a continuous reduction in mortality can be achieved by operating systematically as soon as a diagnosis has been made, with the determination to remove the appendix in all cases. In a series of 100 strictly consecutive cases up to Jan. 31st, 1905, which I communicated to the Royal Medical and Chirurgical Society at the discussion on appendicitis, the mortality was 15. In a similarly consecutive series of 100 cases ending June 13th, 1907, the deaths numbered seven. Of these three died in consequence of pre-existing disease whilst recovering after operation for an intercurrent appendicitis, leaving four deaths in which the diagnosis and operation were too late. There is this special value in the comparison of the two series: the great majority of the cases in both series was first seen and approximately diagnosed by the same practitioners. The diminution in mortality is therefore to be accounted for by the earlier time at which these practitioners have found themselves able to make a diagnosis and to put the case under my care. For all the 100 cases were thus transferred to me after diagnosis except two nurses with acute perforation. This immediate operation has not entailed errors of diagnosis; a bimanual examination in particular has determined the disease in the subacute cases, and in acute cases, when the appendix could not be felt, the signs of early septic peritonitis have been a sufficient indication for immediate operation.

The superiority of the immediate and complete operation is established not only by the series as a whole but by the cases individually. No amount of experience affords grounds for a certain prognosis, so that any delay in operating simply leaves the patient to chance. Anything short of the complete exposure and removal of the appendix fails to reach the deepest focus of suppuration. It may be taken as a rule that until the appendix has been shelled out septic pockets remain unopened. Consequently in this series there have been no lingering cases except the fatal one (6) in which all the extent of suppuration could not be reached at the operation.

A table of the 100 cases illustrates the greater severity of appendicitis in young subjects and in males:—

	Class I.	Class II.	Class III.	Class IV.
Total	37	31	14	18
Males...	14	12	7	14
Females	23	19	7	4
Under 20 years	7	10	7	14
Under 30 years	33	25	10	16
Deaths	0	4	1	2

CLASS I.—Removal of the appendix and the complete suture of the abdominal wall. 37 cases; no deaths. No hernias or fistulas afterwards. These were either cases in the interval between the attacks or early acute and subacute cases in which it appeared that drainage might be dispensed with. All had disease of the appendix to some degree; no doubt some would have recovered from the particular attack without operation, others would have become rapidly worse had the operation been delayed. Beforehand one could not have distinguished them.

CLASS II.—Cases of acute septic peritonitis following gangrenous, perforating, and subacute appendicitis. Appendicectomy and suture of the abdominal wall except for a drain laid obliquely through the wall, removed after a day or two. The peritoneal cavity, the pelvis in particular, was sponged out; the septic fluid removed varied from 30 to 500 cubic centimetres, but the peritoneum generally appeared capable of still absorbing. 31 cases; four deaths. All the recoveries were complete, without hernias or fistulas.

Of the deaths:

(1) A male, aged 22 years, died on the fifth day after operation. The wound and lower part of the peritoneal cavity appeared to be healing well. There was an acute ulcer of the stomach with septic sub-diaphragmatic peritonitis. He was supposed to have had three previous attacks of appendicitis. The appendix at the operation was found

kinked and subacutely inflamed, with some peritonitis around; the gastric ulceration remained unsuspected until the post-mortem examination.

(2) A female, aged 27 years, died four days after operation for acute gangrenous appendicitis with peritonitis and tympanites, the acute symptoms having set in about 24 hours before operation. At the post-mortem examination the lower half of the abdomen and wound appeared to be healing satisfactorily. The stomach showed the remains of widespread gastric ulceration and the upper small intestines were much dilated. She had suffered from dyspepsia for 10 years and had been accustomed to take enormous quantities of commercial bicarbonate of soda.

(3) A man, aged 35 years, was seized with abdominal pain and diarrhœa. His stools came to contain large quantities of blood; later they mainly consisted of pus. He rapidly wasted, suffered from aphthæ, and died in the sixth week of the illness. On the fourteenth day he had commenced to have pains in the ileo-cæcal region; on the eighteenth day he was operated upon and an acutely inflamed appendix was found bound down by old adhesions and there was local septic peritonitis. After the removal of the appendix all peritoneal symptoms ceased and the wound healed well. The diagnosis of the intestinal affection proved impossible, as a post-mortem examination was refused; it was supposed to be a case of ulcerative colitis, but there was no fibrin or mucus in the stools and the course was rapid. All the reactions of typhoid fever were negative; there were no fever and no leucocytosis except in connexion with the intercurrent appendicitis. There was no evidence of any leaking abscess.

Probably none of the foregoing three cases would have died from the appendicitis alone.

(4) A female, aged 20 years, had acute gangrenous appendicitis with peritonitis, which had commenced five days before, and there was already marked tympanites. She died about 24 hours after operation and was found to have been otherwise healthy.

CLASS III.—Cases of suppurating appendicitis treated by shelling out of the appendix, wiping out the affected portion of the peritoneal cavity, and afterwards filling it with gauze; some cases were partly sutured. 14 cases; one death. No sinuses persisted, for the appendix was in all completely removed up to and including its funnel-like junction with the cæcum. Owing to slow healing some of the scars were not at first firm and several of the cases have been ordered belts. Possibly a case may require excision of the scar and suture in stages.

Of the death:

(5) A female, aged four years, after eight days of obscure abdominal disturbance, had marked tympanites. I found a multiloculated abscess in the pelvis around a gangrenous appendix. The child died 36 hours after operation.

CLASS IV.—Cases requiring an extensive ileo-lumbar incision for the removal of the appendix and the complete evacuation of pus and fibrinous masses. All the suppurating cavity was packed with gauze whilst pushing back the intestines. Secondary suture was done as soon as granulations lined the cavity. 18 cases; two deaths. All the scars remain sound and no belts or trusses have been required. The earliest secondary suture was four days after operation, the average being about nine days after. In one case in which a portion of the cæcum was already gangrenous, and a free fæcal fistula followed, the parts around were so soft that it was only after four months that the secondary suture could be undertaken, when a careful dissection and suture in stages resulted in sound healing. In another case a sinus persisted after the secondary suture. Six months later I explored to find that the sinus ran upwards through the psoas muscle nearly to the spine. A thorough scraping was followed by sound healing. In one case I made this deviation from the rule of always excising the appendix; I had already completely exposed the area of suppuration, and isolated the cæcum and appendix when the patient's condition appeared dangerous, so I wrapped up the cæcum and appendix in iodoform gauze. Three days later I removed the appendix and sewed up except for a drain.

Of the deaths:

(6) A male, aged 20 years, was seized with an obscure abdominal attack immediately after a long bicycle ride, during which his pulse and temperature, after being at first raised, became normal and the temperature even subnormal. He was found to have an abdominal abscess extending from the pelvis upwards in front of the intestines, and pus came out from the foramen of Winslow; the tip of the appendix had sloughed off and there were two concretions loose in the pelvis. On the second day after operation a portion of the cæcum sloughed. After a month an attempt at secondary suture was made and failed. In the second month after operation he passed pus in his motions and septic bronchitis appeared. In the third month a left empyema had to be drained. He died ten weeks after operation. There was suppuration between the diaphragm and the liver and spleen, also in the lesser peritoneal cavity, and multiple abscesses in both lungs. The method of operating here failed because the suppuration had already extended upwards into the lesser peritoneal cavity. The pus throughout showed streptococci.

(7) A male, aged 19 years, had acute gangrenous appendicitis with septic peritonitis, followed by tympanites. He was brought in collapsed and covered with a cold sweat. The appendix had sloughed owing to two concretions; the pelvis was full of pus and fibrin with adhesions. He died six hours later. There was no post-mortem examination.

Thus it has been possible to diagnose and to operate on 100 cases of appendicitis, with a loss when the appendicitis was the sole disease of only four, a result which removes the various objections that have been raised to the method.

Brook-street, W.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

ACUTE ARTHRITIS COMPLICATING A CASE OF OPHTHALMIA NEONATORUM.

BY J. H. F. NUNN, M.R.C.S. ENG., L.R.C.P. LOND.

Mrs. ——, a healthy primipara, gave birth to a strong, well-nourished child. On the third or fourth day after birth an acute attack of purulent ophthalmia of the infant's left eye developed. The conjunctivitis was treated with boric and perchloride of mercury lotions and occasional applications of silver nitrate paint (10 grains to one ounce) as the discharge was profuse. Care was taken to allow the child time for sleep. About 24 hours after the conjunctivitis of the infant declared itself the mother developed an attack of pelvic inflammation. I obtained a distinct history of gonorrhœa from the father of the child, who had been treated for the complaint, and I ascertained from the mother that she had had a discharge for some weeks previous to her confinement. After four or five days, when I hoped that the infant's right eye had been preserved, it became similarly affected to the left which was now almost well. At this juncture the metatarso-phalangeal joint of the left great toe of the baby became hot, swollen, red, and painful to touch, the condition being similar to a comparatively mild attack of gout. The nurse was careful and from her I could obtain no evidence of a fall, bruise, burn, or any injury likely to produce the condition. The joint became slightly better, but on the left eye becoming reinfected (this time the condition was worse than before, so that a large central opacity developed which eventually nearly disappeared) the joint again became more acutely inflamed. The arthritis gradually subsided without leaving any stiffness or trace of the inflammation. The child's digestion and bowels were attended to and the joint was occasionally fomented and protected with cotton wool, beyond which no treatment was attempted. The reduction of the discharge from the eye by the use of silver nitrate appeared to coincide with an improvement in the joint, and when the paint was not used for 36 hours there was not only an increase in discharge from the eye but also in the swelling of the joint.

Judging from the usual course of gonorrhœal arthritis, and from the fact that the child was healthy and its strength was being maintained, and that the apparent cause was being treated and thereby diminished, I considered the prognosis to be favourable.

I mention the case because the complication was unexpected, and an ophthalmic surgeon of experience could not recall a similar occurrence; neither had I during 15

months' work at the Barnardo institutions and Her Majesty's Hospital, Stepney, met with a case of arthritis apparently following purulent conjunctivitis even in debilitated subjects.

A CASE OF TRAUMATIC SUBCUTANEOUS RUPTURE OF THE SPLEEN; LAPAROTOMY; RECOVERY.

BY M. B. RAY, M.D., C.M. EDIN.,
SURGEON TO THE HARROGATE INFIRMARY.

THE patient, a boy, aged 19 years, was admitted under my care in the Harrogate Infirmary on Feb. 26th of this year. He was suffering from the effects of a kick in the abdomen by a horse. On admission he was in great pain, referred generally to the abdomen, and in a state of considerable collapse. He lay on his left side with his knees drawn up, any attempt to turn on his back causing intense distress. His face was pinched and somewhat cyanotic. The extremities were cold, the temperature was subnormal, and the pulse at first was 120 and feeble. The abdominal walls, especially on the left side, were very rigid, almost as hard as a board. The percussion note all down the left flank was quite dull.

The abdomen was opened in the middle line and the peritoneal cavity was at once seen to be full of fluid blood. As it seemed to come from the splenic region the incision was extended parallel to the left costal margin. The spleen was felt to be normal in size, but a ragged edge could be distinctly made out below the notch from which the hæmorrhage evidently proceeded. The amount of damage to the organ did not seem to call for extirpation, especially as firm pressure evidently controlled the bleeding. I therefore decided to tamponade. In this process I used about two and a half yards of sterile gauze. The median wound was then sutured and the patient sent back to bed.

The boy had a narrow, rickety chest and for some weeks previous to his accident had been troubled with a cough, accompanied by copious muco-purulent expectoration. This for the first few days got much worse and he had in addition some dulness about his left base. The latter, however, gradually cleared up. The packing was daily withdrawn little by little, commencing on the fourth day. The end of the gauze had caked into a hard mass and the wound had to be slightly opened under gas to allow of its removal. The whole of the tampon was finally removed by the end of the first week. A fistulous track, gradually becoming shorter, persisted for another fortnight. At the end of a month he was sitting up, taking food well, and putting on flesh. He was finally discharged cured on April 13th, six weeks after admission.

The case is interesting as demonstrating the importance of an exploratory operation in doubtful cases of abdominal injury. Also the number of successful cases of tamponading for rupture of the spleen is not great. At any rate, the number recorded is not.

Harrogate.

A CASE OF TWISTED OVARIAN PEDICLE IN A CHILD AGED THREE YEARS.

BY W. GREENWOOD SUTCLIFFE, F.R.C.S. ENG.,
SURGEON TO THE ROYAL SEA-BATHING HOSPITAL AND VICTORIA CHILDREN'S HOME, MARGATE.

THIS case was first seen with my friend Dr. A. Warwick Brown at 10 P.M. on July 17th. The patient was a healthy-looking child, just over three years old, who had been attacked by violent abdominal pains and vomiting 24 hours previously. A large rounded tumour was felt in the middle of the abdomen and operation was at once decided on. Chloroform was given by Dr. F. E. Nichol and Dr. Warwick Brown kindly assisted. On the abdomen being opened the tumour was, to our surprise, obviously ovarian; it was tapped but very little fluid escaped, and after enlarging the wound it was removed and the pedicle was examined. This was twisted four times and sprang from the right broad ligament. It was ligatured in the usual way and the wound, through the right rectus sheath, was closed. The small patient made an excellent recovery and is now running about as usual. The tumour was an ordinary adenoma, weighing 18 ounces, and of about the size of an average cocoanut; it was distended with blood clot and its pedicle was swollen so as to measure some 4 inches in circumference.

Ovarian tumours are, of course, met with at any age, but torsion of the pedicle at the age of three years is, I think, sufficiently rare to record.

Margate.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Prœmium.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET.

A CASE OF CATARRHAL APPENDICITIS DUE TO THE PRESENCE OF THE OXYURIS VERMICULARIS.

(Under the care of Dr. A. E. GARROD and Mr. H. A. T. FAIRBANK.)

A BOY, aged 10½ years, was admitted to the Hospital for Sick Children, Great Ormond-street, on Dec. 22nd, 1906, under the care of Dr. Garrod for incontinence of urine and (?) epilepsy. The notes state that he complained of pain in the stomach directly he began to eat, but no history could be obtained of any attack suggesting appendicitis. On Jan. 5th, 1907, in the evening he complained of headache and he vomited. His temperature rose from normal to 101·6° F. The next morning he complained of pain in the abdomen and down the right leg. He vomited again, his temperature again rising above 101°. An enema produced a large constipated result. The next morning his temperature was 103·2° and his pulse was 108. The abdomen was not unduly full and was not rigid, but there was extreme tenderness in the right lumbar region in front and in the loin behind, particularly in the latter position. There was no tumour to be felt. The right thigh was fully extended. There was a leucocytosis of 26,000. By rectal examination nothing abnormal was made out. A diagnosis of appendicitis, with the appendix lying up behind the colon, was made, and the boy was transferred to a surgical ward and operated upon immediately.

The abdomen was opened somewhat higher than usual by McBurney's method. The appendix was found behind the colon in an unusually deep subcæcal pouch. It was quite free from adhesions and there was no sign of recent peritonitis. The vessels of the cæcum and appendix appeared a trifle larger than normal and the terminal portion of the latter was somewhat rigid, so its removal was proceeded with. The right kidney and ureter were normal. On slitting up the appendix after removal the mucous membrane was seen to be congested and in the lumen were found some soft fæcal matter and several thread worms. The next day the boy was much better and in 36 hours the temperature was normal. On the third day after the operation the temperature again rose, reaching 103·8° on the fourth day. The child had an attack similar to the former, though the local tenderness was not quite so marked and he did not vomit. The attack lasted three days and was followed by uninterrupted recovery, the wound healing by first intention. On the supposition that the cæcum was probably the seat of many more worms drugs were given with a view to their removal, yet not a single oxyuris could be found in the motions at any time. He left the hospital on Jan. 26th apparently quite well.

CHOLERA RISKS AT MOSCOW: PROVISION FOR MEDICAL MEN'S FAMILIES IN CASE OF DEATH.—In view of the threatened invasion of cholera the Moscow Hospital medical men have held a meeting at which it was decided, *inter alia*, that in the event of deaths amongst the members of the staff compensation (except in cases where pensions are provided) shall be paid to the families of such deceased at rates varying from £100 in the case of the lowest services on the staff to £500 in the case of the medical staff.

Reviews and Notices of Books.

Diseases of the Eye: A Manual for Students and Practitioners. By J. HERBERT PARSONS, D.Sc., M.B., B.S. Lond., F.R.C.S. Eng., Assistant Ophthalmic Surgeon, University College Hospital; Assistant Surgeon, Royal London (Moorfields) Ophthalmic Hospital. With 15 coloured plates and 308 woodcuts. London: J. and A. Churchill. 1907. Pp. 664. Price 10*s.* 6*d.* net.

IT is difficult for the most original of authors to present to his readers any great novelty in the mode of discussing the subjects that must be dealt with in a manual of ophthalmology intended for the use of the large classes of senior students and of junior practitioners; for it is only the student in the last year or two of his attendance in the wards of a hospital or the young practitioner in the first year or two of his professional work who has the time or the inclination to master the details of so large and important a subject as the diseases of the eye. Yet there are few departments of medicine the study of which is more interesting, owing to its numerous relations with other branches of science, or which, when successfully pursued and applied, is more useful to man. The author of this work has excellent qualifications for the office of a teacher. He is connected with a special hospital presenting the most extensive field of observation of diseases of the eye in England. As curator of the museum at Moorfields he has large opportunity of examining the exceptional as well as the more common diseases of the eye. And the works which he has already published on the pathology and on the physiology of that organ show that he has not neglected opportunities which have now enabled him to produce one of the most useful manuals to be found in any language.

In recommending the volume to the junior members of the profession we may remark generally that it is of handy size, clear print, and that it possesses excellent illustrations, those in particular showing the macroscopic changes in the iris and retina, many of which are coloured, being exceptionally instructive. Finally the space accorded to each division of ophthalmology is fairly in accordance with its importance to the learner. In the plan of the work the arrangement in chapters or divisions is—anatomy and physiology, examination of the eye, the diseases in topographical order, errors of refraction, disorders of motility of the eye, diseases of the adnexa of the eye, and some appendices specifying the requirements of the public services.

As might be expected from Mr. Parsons's familiarity with pathological researches, this aspect of the diseases of the eye is brought into prominence to the great advantage of the student, since much of our knowledge of the intimate changes taking place in inflammation of opaque tissues is derived from the investigation of the processes occurring in the transparent tissue of the cornea. We are tempted to transcribe the account, or rather a part of the account, of the process of ulceration in the cornea to show the mode in which accurate pathological knowledge is brought to bear by Mr. Parsons not only on the limited area of the cornea but upon inflammatory affections generally. After describing the usual form of an ulcer in the progressive stage as saucer-shaped with walls thickened from imbibition of fluid and the presence of numerous leucocytes, he points out that a line of demarcation is formed as in necrosis elsewhere. The toxins are most concentrated near the centre where the organisms are most numerous but dead owing to their virulence. Then, as Leber showed, a ring or wall of leucocytes containing many nuclei forms a second line of defence. Here the leucocytes are neither paralysed nor killed by toxins but are able to exert their digestive functions, removing by dissolving or digesting the necrotic tissues. The process of reparation is then described and with vascularisation the regressive stage is reached, the stages of which are given. But in certain circumstances some of the toxins elaborated by the bacteria diffuse through the cornea into the anterior chamber, where they exert an irritative effect upon the vessels of the iris and ciliary body, causing hyperæmia of the iris, and in severe cases the formation and discharge into the aqueous from the vessels of numerous leucocytes which gravitate to the bottom of the anterior chamber where they form an hypopyon. "There are several important facts about hypopyon," Mr. Parsons continues, "which must be borne in mind. The pus cells do not come from the cornea as was once thought. This is proved by the following facts: 1. Descemet's membrane is impermeable to leucocytes though fluids pass readily through it. 2. The cells sometimes contain pigment granules obviously derived from the uveal tract. 3. If the ulcer have not perforated the hypopyon is sterile. The last fact is of the very greatest importance both theoretically and practically. It shows that the leucocytosis is due to toxins, not to actual invasion of bacteria which indeed are as incapable of passing through the intact Descemet's membrane as are leucocytes. It accounts for the ease and rapidity with which hypopyon is often absorbed; it may develop in an hour or two, rapidly disappear, and as readily reappear. Such hypopyons are very fluid, always moving to the lowest part of the anterior chamber if the position of the patient's head be changed. The fact that the hypopyon is sterile has great practical importance—it is unnecessary to remove the pus as is the rule in all other parts of the body; if the ulcerative process can be stopped the hypopyon will be absorbed." Of course in exceptional cases its removal becomes necessary.

Cataract and the operations for its removal are described succinctly but in quite sufficient detail for the junior practitioner. As a matter of fact, the cases requiring extraction of the lens do not in general fall to his lot. To be successful the diagnosis must be satisfactorily made and the surgeon must know the steps of the operation and must not only have the appropriate instruments but they must be in perfect order, a blunt point to the Graefe's knife often leading to undue pressure upon the globe and loss of vitreous. Mr. Parsons confines himself in the diagnosis of errors of refraction to the employment of the shadow test, yet the application of this test can hardly be learnt from books except in the dark room of a hospital with an expert at hand to explain the difficulties which so often arise and which often prove puzzling even to him. We have seen several cases excellently determined by the late Mr. Hulke by the "slit" test alone and this method might have been given as an alternative and certainly much easier method than skiascopy.

The chapter on Sympathetic Ophthalmia is written in accordance with the lights of the present day, but supplies sufficient evidence that this is still a dark corner of ophthalmology and affords little help to the general practitioner who is suddenly confronted with a wound in the globe and has to determine whether he should attempt to apply the ordinary rules of surgery or at once proceed to its removal. The fact is, that we require many more clinical histories of carefully observed cases, supported by such pathological details as Mr. Parsons, Mr. E. Treacher Collins, and other expert microscopists can supply. We want to know why a prick with the point of a pin is followed in one case by no more than a trifling local inflammation and in another apparently exactly similar by the most disastrous results, not only to the injured eye alone but to the opposite one. We want to know better than we do at present the means or channels by which the evil influence is conveyed from the excitor to the sympathising eye, and, above all, we want to know the treatment that should be adopted at the early and at the later stages of the affection, the grounds inducing us to preserve the injured eye in one

instance and to extirpate it in others, and when it is proper to deal with the sympathising or uninjured one. We notice that little is here said of any distinction between sympathetic irritation and sympathetic inflammation, yet antiseptics and rest in a darkened chamber with some general treatment will sometimes altogether remove the one and have little or no beneficial influence on the other. The treatment proposed for penetrating wounds in the ciliary region (p. 437) though correct for an expert with all appliances at hand seems too difficult for the junior practitioner. It would not be advisable, we think, for an unpractised hand in a case of a cut with a penknife, a very common form of injury, to insert fine silk sutures into the sclerotic but which are not to be tied, "great care being exercised not to press unduly on the eye. The prolapsed iris and ciliary body are then excised as in the operation for simple prolapsed iris. The scleral sutures are then tied. Finally the conjunctiva is sutured over the wound." The student or general practitioner would, we think, be better advised to send such cases to some large centre where the operation could be undertaken by one who is familiar with the operative surgery of the eye, or, failing this, to wait a week or two, and if the appearances were threatening and no improvement took place to remove the eye; as a rule, a delay of a fortnight does no harm.

We have left ourselves no space to comment upon the sections devoted to the neurology of vision and upon the disorders of the motility of the eye. These, no less than the others, are thoroughly worked up to date, and the book as a whole may be regarded as a very sure guide to the student and as representing the practice of one of the best schools of ophthalmology in Europe.

Le Sol et l'Eau. (*Soil and Water.*) Par L. DE LAUNAY, Professeur à l'École des Mines; E. A. MARTEL, Auditeur au Comité Consultatif d'Hygiène; ED. BONJEAN, Chef du Laboratoire du Comité Consultatif d'Hygiène de France; et J. OGIER, Chef du Laboratoire de Toxicologie de la Faculté de Médecine de Paris. With two coloured plates and 80 figures in the text. Paris: J. B. Baillière et Fils. 1906. Pp. 460. Price Fr.10.

THIS book, which constitutes the second fasciculus of a treatise on hygiene published under the editorship of Professor P. Brouardel and M. E. Mosny, deals in a most exhaustive and interesting manner with the examination of the characters of the soil in regard to the problems of human habitation and with the general properties of water from a hygienic point of view. It commences with a geological study of the soil by M. L. de Launay in which the general characters of soil and sub-soil are described. Geological maps and sections are illustrated and their uses indicated. The constitution of the soil and the penetration of water through it are described.

M. Bonjean contributes a chemical and bacteriological study of the soil and discusses the rôle of the soil in regard to human habitation. He gives in detail the chemical composition of the different varieties of earth, and describes their physical properties. The relations of bacteria to the soil are given in detail, the problem of nitrification is discussed and the general distribution of pathogenic and other organisms, with their vitality in the soil, are described. The mortality rates of dwellers upon different kinds of soil and the nature of the so-called telluric affections concludes this section.

The geological relations of water are contributed by M. E. A. Martel. In this section the origin and nature of subterranean waters are described in detail and these waters are classified. The essential characters of potable waters are laid down and the various sources of pollution are considered, with the means to be adopted for counteracting them. The various possible sources of water—viz., rain, small springs, wells, rivers, lakes, and the sea are each separately dealt with, and the legal procedures necessary for the effective control of the supply of drinking water are summarised.

The remaining section of the book is contributed by M. Ogier and M. Bonjean and deals with the examination of water from the microbiological and chemical points of view. It occupies more than half the total pages of the book and is one of the most thorough and complete studies of the subject with which we are acquainted. The various characters of potable waters are given very carefully and the methods of water examination are described in detail, with especial descriptions of the methods used in the laboratory of the French Committee of Hygiene. The various bacteria found in water are separately considered and their morphological and cultural characters presented very clearly. The ordinary intestinal parasites and their ova and other small animal organisms sometimes found in water are described and figured. The various methods for the chemical analysis of water are next given and the significance and value of the results obtained are discussed. A very considerable amount of attention is given to the methods of purifying and improving the water-supply, and in this connexion the methods for filtration on a large scale are referred to and discussed, the special forms of filter like the Pasteur-Chamberland and the Berkefeld are figured and the methods of purification by chemical processes are also dealt with. An interesting account is given of certain methods for the sterilisation of water by means of ozone generated by electrical apparatus.

The book as a whole is a very valuable contribution to the works of reference on the subject of hygiene and is worthy of the reputation of the editors.

Hay Fever, Hay Asthma: Its Causes, Diagnosis, and Treatment. By WILLIAM LLOYD, F.R.C.S. Edin., Surgeon-in-Charge of the Nose, Ear, and Throat Department, Queen's Jubilee Hospital; Surgeon to the Nose and Throat Department, St. Pancras and Northern Dispensary. London: Henry J. Glaisher. 1907. Pp. 95. Price 3*s.* 6*d.*

THE author explains in his preface that his chief reason for writing this book was to record certain opinions which he holds upon the causes and effective treatment of hay fever. He admits that these opinions are not exactly in accordance with those generally current in this country but is convinced, he says, from a considerable experience that they are substantially correct. He divides cases of hay fever into two distinct clinical types, dependent upon the predisposing pathological cause. In the first type, on examination of the nose no structural abnormality is discovered, but certain areas of the mucous membrane are hypersensitive. In the second, some pathological condition or abnormality is present, together with hypersensitive areas. Amongst the intranasal diseases present he mentions simple chronic catarrhal or hypertrophic rhinitis, polypi, sinus diseases, ethmoiditis, adenoids, deflected septum, spines and crests, and foreign bodies, or rhinoliths. Mr. Lloyd considers that his first group forms the true type of hay fever, and the symptoms are only produced by the action of pollen; the second group, he suggests, should be termed pseudo hay fever; the symptoms are much the same, but may come on during any period of the year. We think, however, that it is not desirable to include the second group under the heading of hay fever but to designate them according to the morbid condition which exists. The main etiological factor is quite different, in the one the pollen is the prime cause of the disease, whilst in the other the pollen is of only secondary importance.

In regard to treatment Mr. Lloyd lays great stress on the importance of cauterising the hyperæsthetic areas. Obvious abnormalities such as adenoids and polypi must, of course, be removed, but this procedure, he says, will not always give the expected relief, and the electric cautery must then be applied to the areas just named. This method of treatment

has been extensively adopted in America, but many authorities in this country do not view it with favour.

We do not think that this work adds much to the knowledge of hay fever, but it contains a good summary of the various opinions which are held in regard to the pathology and the treatment of the disease.

Operative Gynecology. By HOWARD A. KELLY, A.B., M.D., LL.D., F.R.C.S. Edin. (Hon.), Professor of Gynæcological Surgery in the Johns Hopkins University and Gynæcologist in the Johns Hopkins Hospital, Baltimore. Second edition, revised and enlarged. With 11 plates and 703 original illustrations. London: Sidney Appleton. 1906. Vol. I., p. 680. Vol. II., pp. 656. Price £3 3*s.* net for two volumes.

SINCE the first appearance of Professor Kelly's important work on Operative Gynecology nine years ago many important changes have taken place in this field of surgery. The very high place which this book has always occupied in gynæcological literature renders the appearance of a second edition a matter of much importance. The author has taken the opportunity of adding several chapters on various subjects of minor gynæcology so as to render the book more suitable for the general practitioner. For our part we somewhat regret that Professor Kelly has not been content to retain the special character of his work as one adapted particularly to the needs of the operating gynæcologist. There are so many subjects of interest only to the specialist on which we could hardly have too much written by so great an authority that we are sorry to see any space taken up by matters which are quite adequately dealt with in the ordinary text-book. The book, however, retains all its distinctive qualities, and the second edition, like the first, need fear no rivals in its own particular sphere. A very thorough revision has been carried out and in several instances chapters have been entirely rewritten.

In the first volume we notice a new chapter on bacteriology by Dr. W. W. Ford and one on the use of the x rays in detecting calculi by Dr. F. H. Baetjer. In the chapter on gynæcological examinations a new instrument, the piezometer, for measuring the resistance of the abdominal muscles present and for determining indirectly the amount of pain, is described. The method recommended of examining virgins in the knee-chest position with a long cylindrical speculum is worthy of attention. There are new chapters on local and palliative treatment, menstruation and its anomalies, and uterine displacements and their treatment by pessaries. The chapter on anæsthesia has been contributed by Dr. H. W. Cook. The subject of spinal anæsthesia is dismissed in a few lines and evidently meets with no favour in Professor Kelly's clinic, being described as unsatisfactory and unsafe. The section on Bartholin's glands has been considerably added to and there are several very good new drawings. The minute anatomy of the gland, based on Dr. T. S. Cullen's recent work, is very fully described and illustrated. In the chapter on relaxed vaginal outlet an account has been added of the operation devised by Dr. G. R. Holden for the purpose of uniting the anterior edges of the levator ani muscles and this is illustrated with several good figures. It certainly promises to be of value in these cases. Nearly 80 pages of this volume are given up to affections of the ureters, and we need not say that this chapter, embodying as it does so much of the author's special work, is one of the greatest interest and value. There are some very striking illustrations of wax-tipped catheters actually scratched by calculi. The chapter on inversion of the uterus, revised by Dr. Dobbin, is not up to the standard of the others, while the chapter on vaginal extirpation of submucous myomata and polypi is an interesting illustration of the fact that the one weak point in this work is to be found in the description of some of the simpler operations undertaken by the vagina. For example, here we actually see an illustration of the use of an écraseur; we are told to incise the cervix laterally in order to expose an intra-uterine fibroid, and ligature of the pedicle of a fibroid or mucous polypus is advised before removing either of these tumours. Although mucous polypi are said correctly to be often associated with a hypertrophic endometritis, no mention is made of the best method of treating them—namely, by curettage.

In the second volume the chapter on the general principles common to abdominal operations has been largely rewritten and there is a good illustration of the method of postural drainage which is often so useful and which consists in elevating the body to an angle of about 30 degrees to encourage the flow of all fluids to the floor of the pelvis. One of the most important chapters in the whole work is that on hysterectomy, with extirpation of ovaries and tubes. It has been extensively revised and a very good description is given of the author's method of bisecting the uterus as a preliminary to the removal of densely adherent appendages. The method is one which we have found of the utmost value in some of these difficult cases, and we can fully corroborate the advantages which are claimed for it. It turns what is often a most difficult and dangerous operation into one of comparative ease. The most interesting and the most helpful section of all we have always regarded as that on myomectomy and hysteromyomectomy. In this new edition there are some noteworthy additions and a number of new figures in this chapter. Further illustrations of the difficulties and dangers which may be encountered in dealing with complicated cases of fibroid tumours are given and the recital of the different devices adopted by the author in treating such cases cannot fail to be of the utmost help to all who have to deal with them.

At the present time we naturally turn with much expectation to the chapter on the operative treatment of carcinoma of the uterus. The whole has been revised and practically rewritten by Dr. J. A. Sampson. It is one of the best accounts that we have read and contains a detailed record of Dr. Sampson's important researches as to the method in which the disease spreads and the relative frequency of the involvement of the glands and of the cellular tissue of the pelvis. The illustrations are of the greatest artistic merit and importance and reflect great credit on Professor Max Brödel. The abdominal route in dealing with the disease is favoured. For the important details with regard to the avoidance of damage to the ureters we must refer our readers to the book itself. The method of operating recommended, based upon the anatomical studies of Dr. Sampson on the blood-supply of the ureters, is a very good one and renders the risk of damaging these structures almost *nil*. We are interested to see that stress is laid on the danger and often unsatisfactory results obtained in many cases of uretero-vesical implantation. In the chapter on intestinal complications the crushing operation for the removal of the appendix is described and recommended.

We can hardly praise this book too highly. It is a fitting record of the genius of its author and of the remarkable work accomplished in the Johns Hopkins Hospital under his direction and supervision. It is true that the book contains mainly the opinions and the practice of Professor Kelly and it might be objected that too little attention is paid to the work and opinions of other surgeons. In this, however, lies one of the main merits of the book—that it is founded upon the practice of one school, and it derives much of its value from the fact that the reputation of the Johns Hopkins University stands so high that any record of the work done there cannot but be helpful to others. Professor Kelly's "Operative Gynecology" must be read and studied by any gynæcologist who wishes to keep abreast of the advances which daily are being made in his specialty, and he will not fail to derive the utmost pleasure and profit from his

study of these two volumes. The new illustrations attain an even higher standard of merit than those in the first edition, and this is saying a great deal.

LIBRARY TABLE.

Outlines of the Diseases of Women. By JOHN PHILLIPS, M.A., M.D. Cantab., F.R.C.P. Lond., Professor of Obstetric Medicine and Diseases of Women, King's College Hospital. With 121 Illustrations and two appendices. Fourth edition, revised and enlarged. London: Charles Griffin and Co. 1906. Pp. 282. Price 7*s.* 6*d.*—As this book, of which Dr. Phillips has issued a fourth edition, is only an outline of the diseases of women we must not, of course, expect too much in the way of detail. The author has revised the new edition and more particularly those portions of the book dealing with chorion-epithelioma and the operation of ventro-suspension of the uterus. It is disappointing to find that the process of revision has not been carried out as thoroughly as it might have been; for instance, in considering the operative treatment of inversion of the uterus we are told that, if failure in the attempt at reposition has taken place and hæmorrhage is severe, amputation by the elastic ligature or electric cautery is advisable. We think that even the most conservative gynæcologist would not carry out such entirely obsolete treatment when the removal of the uterus by the easy operation of vaginal hysterectomy is undoubtedly the correct treatment, granting that other operative procedures, which by the way are not even alluded to, are unsuccessful. We fail also to see that division of the pedicle of a fibroid polypus with a wire écraseur is a better plan than the cutting through of the pedicle with a pair of scissors such as is the usual method of treating such cases. Dr. Phillips still recommends Apostoli's treatment carried out by the intrauterine method. In the same section on the operative treatment of fibroid tumours of the uterus we are told that öophorectomy is indicated in young women with slowly growing hæmorrhagic fibroids. We should have thought that removal of the ovaries was contra-indicated especially in the case of young women. In the treatment of cancer of the cervix a considerable amount of space is devoted to supravaginal amputation of the cervix, although nothing is said of total abdominal hysterectomy, which seems curious. The author is of opinion that some cases of chorion-epithelioma may in reality be cases of decidual sarcoma. It is a pity that the drawing on p. 229 illustrating the characteristic contents of ovarian cystomata has not been deleted as its retention might lead the student to believe that the microscopical appearances are characteristic, whereas as a matter of fact they are not so at all.

The Operations of General Practice. By EDRED M. CORNER, M.A., M.C., M.B. Cantab., B.Sc. Lond., F.R.C.S. Eng., Surgeon in Charge of Out-patients at St. Thomas's Hospital and to the Children's Hospital, Great Ormond-street; Consulting Surgeon to the Wood Green and Purley Hospitals; formerly Erasmus Wilson Lecturer to the Royal College of Surgeons of England; and H. IRVING PINCHES, M.A., M.B., B.C. Cantab., M.R.C.S. Eng., L.R.C.P. Lond., Clinical Assistant to the Children's Hospital, Great Ormond-street; late House Surgeon and Obstetric House Physician to St. Thomas's Hospital. London: Henry Frowde and Hodder and Stoughton. 1907. Pp. 296. Price 15*s.* net.—This is one of the Oxford Medical Publications, a useful series of books only recently commenced. There can be no doubt that at the present time there is a very great tendency for those medical men who are in general practice to operate more frequently than 20 or 30 years ago, but there has been a want of a suitable work giving clear instructions for the operations which a general practitioner would be inclined to undertake. This want appears to us to be very well supplied by this book. It is large without being too big; it is clearly written, and gives just that amount of assistance which is likely to be needed. There is an introduction with a general discussion of surgical matters, such as asepsis; then follows a chapter on anæsthetics, and after that come chapters on the operations on different parts of the body. The illustrations are adequate.

A Dictionary of Medical Diagnosis: a Treatise on the Signs and Symptoms observed in Diseased Conditions, for the Use of Medical Practitioners and Students. By HENRY LAWRENCE MCKISACK, M.D. R.U.I., M.R.C.P. Lond., Physician to the Royal Victoria Hospital, Belfast. London: Baillière, Tindall, and Cox. 1907. Pp. 583. Price 10*s.* 6*d.*—It is only by attendance in the wards and out-patient rooms that the student can obtain the requisite experience to enable him to recognise and correctly to interpret the phenomena met with in disease, but a written guide to which he can turn for help will be valuable to him. In order to meet this requirement Dr. McKisack has written the volume under consideration, and we believe that students will find it useful to them in their clinical work and that practitioners will also be able to consult it with advantage in order to refresh their memory as to the significance of physical signs and symptoms when dealing with obscure or complicated cases. In order to facilitate reference to the different subjects these are arranged in alphabetical order and not in anatomical or nosological grouping; as the work is intended as a complement to, and not as a substitute for, the recognised text-books on medicine this is a good procedure. We have been well satisfied with our perusal of the work. It is complete and explicit, and an explanation of much of the more modern terms employed in medical literature will be found in it. In order to assist the reader in the study of differential diagnosis comparative tables are frequently employed; these are valuable not only for instruction but also for facility of reference. The book is well illustrated, containing numerous diagrams and reproductions of photographs illustrative of the text.

The Ophthalmoscope: A Manual for Students. By GUSTAVUS HARTRIDGE, F.R.C.S. Eng., Surgeon to the Royal Westminster Ophthalmic Hospital, Ophthalmic Surgeon to the Westminster Hospital, &c. Fifth edition. With 68 illustrations and four plates. London: J. and A. Churchill. 1907. Pp. 153. Price 4*s.* net.—This little book, while not so successful as its companion volume by the same author on the refraction of the eye, has yet attained a large measure of success. The book in reality is an incomplete student's manual on the diseases of the eye and the methods of their investigation by means of the ophthalmoscope. There seems to be a demand for small and concise books of this description, presumably amongst examinees, though this particular specimen has none of the demerits of a cram book. The material, though necessarily incomplete, is thoroughly trustworthy and clearly expressed. The plates in monochrome of diseased conditions of the fundus are not very satisfactory and might advantageously be replaced by coloured representations in a future edition

JOURNALS AND MAGAZINES.

The Journal of Physiology. Edited by J. N. LANGLEY, Sc.D., F.R.S. Vol XXXVI., No. 1. August 27th, 1907. London: C. F. Clay. Price 5*s.*—The articles contained in this number are: 1. The Non-existence of Protagon as a Definite Chemical Compound, by Otto Rosenheim, Ph.D., and M. Christine Tebb. The authors show that Liebreich's, Gamgee and Blankenhorn's, and Cramer's protagons represent practically the same substance as cérébrote prepared by Cooerbe in 1834. By fractional crystallisation substances can be obtained from protagon which differ much *inter se*. Thus protagon with about 1 per cent of phosphorus yields when appropriately treated phrenosin containing no phosphorus and sphingomyelin which is rich in phosphorus.

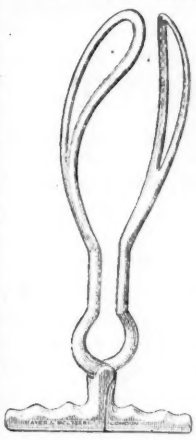
This view is in opposition to the conclusion of A. C. Lockhead and W. Cramer, published in the *Biochemical Journal*, Vol. II. 2. On the Nature of the Fat contained in the Liver, Kidney, and Heart, by Percival Hartley, Grocers' Company Research Scholar. The chief conclusions at which the author arrives are that the higher fatty acids from the liver include, in addition to saturated acids and acids of the oleic series, considerable quantities of acids of the series CnH_2n-4O_2, CnH_2n-6O_2, and possibly CnH_2n-8O_2; that the fatty acids from the kidney and the heart muscle have iodine values of the same order as those of the liver fatty acids; and that the higher fatty acids from the organs undergo change on exposure to the air, the iodine value diminishing and a large proportion becoming insoluble in petroleum ether. 3. Metabolism during Starvation, Part II., Inorganic, by E. P. Cathcart, M.D. Glasg., and C. E. Fawsitt, D.Sc. Glasgow University. 4. The Action of Caffeine on the Capacity for Muscular Work, by W. H. R. Rivers and H. N. Webber. The authors show that in two subjects caffeine produced an increase in the capacity for muscular work but in one the action continued throughout the whole of six sets of ergograms and in the second a decided fall below the normal was observed towards the close of each set of six ergograms. 5. The Haldane-Smith Method of Estimating the Oxygen Tension of Arterial Blood, by W. A. Osborne, University of Melbourne. The author considers that Haldane and Smith were not justified in concluding from their researches that the oxygen tension of arterial blood is higher than that of the alveolar air because the colorimetric method employed is inaccurate and because no account was taken of the counter diffusion of O and CO_2 on the CO. 6. On Sulphhæmoglobin, by T. Wood Clarke and W. H. Hurtley, St. Bartholomew's Hospital. 7. Concerning Cystinuria and Diamines, by F. H. Thiele, M.D., pathologist to University College Hospital. This number of the journal contains the Proceedings of the Physiological Society for May 18th, June 22nd, and July 20th, 1907.

The Biochemical Journal. Edited by BENJAMIN MOORE, M.A., D.Sc., and EDWARD WHITLEY, M.A. Vol. II., No. 9. August 20th, 1907. Biochemical Department, Johnston Laboratories, University of Liverpool.—The contents of this part are: (1) The Electrolytes in Pathological Body-Fluids, by Oskar C. Gruner, M.B. Lond., clinical pathologist, Leeds General Infirmary; (2) Abnormal Fat Assimilation associated with Some Diseases of the Intestine, by Owen T. Williams, M.D., B.Sc. Lond., medical registrar, Liverpool Royal Infirmary; (3) A Note on the Reduction of Alkaline Coffee Solutions by Sugar, by Stanley R. Benedict, from the Sheffield Laboratory of Physiological Chemistry, Yale University, New Haven, Conn., U.S.A.; (4) On the Effect of Narcotic Agents in the Detachment of Electrolytes from Cell Proteins, by Herbert E. Roaf, M.D. Toronto, lecturer on physiology, University of Liverpool, and E. Alderson, M.D. Liverp.; and (5) On Some Applications of Safranin as a Test for Carbohydrates, by Hugh MacLean, M.D. Aberd., lecturer on chemical physiology, University of Aberdeen. Unlike many other tests for sugar, safranin is absolutely unaffected by uric acid or urates, hippuric acid, creatinin, creatin, chloral, chloroform, hydrogen peroxide, salts of hydroxylamine, pyrocatechin, or hydroquinone. It is essentially a reagent for indicating the presence of carbohydrates in general.

New Inventions.

NEW DESIGN OF MIDWIFERY FORCEPS.

I ASK permission by the medium of the columns of THE LANCET to draw the attention of the medical profession to a new design of midwifery forceps. It has often occurred to me during a lengthened experience of midwifery practice that there was a manifest failure to provide the chief essential of such forceps—viz., a means of *traction*—in the ancient instrument still in use by every general practitioner of the present day. It is with this excuse I submit the accompanying sketch wherein this failure is to a considerable extent obviated by having each handle at right angles to the shank. At first sight it may seem difficult of application, but from repeated use I find it simpler. Each handle is 2¾ inches, his being necessary to get a firm enough hold for introducing, making, when locked with its fellow, 5 inches of somewhat uncomely length, and yet not too long if each hand of the operator is on each handle of the instrument when enforced traction is necessary; in practice this does not interfere with its efficiency. In the ordinary position with the thighs flexed and kept apart, or on the back with the thighs apart, the joined handle is not, as one might expect, in the way in the movement necessary for complete delivery. Where rotation is practised the means of doing so by this instrument is simplified. The other accessories of forceps, such as for compression by the addition of a screw, or for axis-traction by a handle, may be applied to the shank or other part of this instrument as they are to others; for my part I prefer keeping the handles locked by some material such as tape or string that can be so easily divided or unwound when not required further.

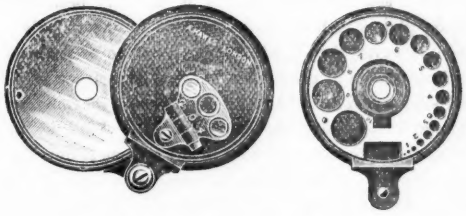


Messrs. Mayer and Meltzer of London and Melbourne have kindly arranged for the supply of this instrument and I have to thank them for their assistance in carrying out my design.

T. TAYLOR DOWNIE, M.B., C.M. Glasg.,
Honorary Midwifery Surgeon, Women's Hospital, Melbourne, Australia.

AN IMPROVED RETINOSCOPICAL MIRROR.

FROM the illustration it will be seen that two mirrors (one concave and one flat), 1¾ inches in diameter, are hinged together so as mutually to protect one another. This is a well-known device but the improvement consists in having on the back of the concave mirror a small triangular carrier. This has three perforations carrying a + 2 D. and a + 4 D. lenses, the centre one being unglassed. When examining by the indirect method either at will can be brought over the sight hole of the mirror. The advantage of examining with + lenses gives not only increased magnification but lessens the distance at which the observer has to stand from the eye of the patient. To



enable one to clean the lenses the carrier is hinged on itself. The sight holes in both mirrors are six millimetres in diameter which is larger than commonly made. Messrs. Hawes of Leadenhall-street, London, E.C., made the instrument at my suggestion some years ago and as it has proved of value to myself and recommended itself to other ophthalmic surgeons it may be worth the attention of others. A pupilometer is fitted to the back of the flat mirror.

Southport. A. ALISON BRADBURNE, F.R.C.S. Edin.

THE LANCET.

LONDON: SATURDAY, SEPTEMBER 14, 1907.

The Plague in India.

IT appears that the net result of the two years' consideration by the Government of India of the proposals of the Royal College of Physicians of London is to condemn the recommendation of the College that a special organisation for dealing with plague should be formed, but to admit that a general sanitary service requires development.[1] Further than this there is apparently no progress, for Mr. MORLEY was still awaiting information regarding proposals in this direction when he penned the dispatch on July 26th, calling attention to the importance and urgency of the question, expressing his anxiety to be placed in possession at the earliest date of the view of the Indian Government, and recording his regret that greater expedition could not have been found practicable. Possibly the Secretary of State for India had also in mind at the time of his dispatch the questions which Dr. H. V. RUTHERFORD had asked so long back as April last concerning the strength of the medical staff specially deputed for plague work in India, the answers to which he was still awaiting, although three days at most would have been ample time for collecting the information. Things must move slowly in India when it takes over three months to learn what is the actual establishment devoted specially and wholly to plague work. We suspect that some of the active and passive resistance to reforms which Lord KITCHENER experienced in his proposed reorganisation of the Indian army, and which he successfully overcame, has now been transferred to the equally urgent and necessary reforms in the sanitary organisation in India. The particular name or form of the proposed sanitary organisation is a matter of small moment provided the service so formed is the very best for combating plague in India, and that it is formed quickly. We hope, however, that it will be the outcome of proposals by medical officers of great and practical experience in plague and sanitary work and not a cut-and-dried scheme from the secretariat in India, the source of many different plague policies. We further trust that in any scheme of development of a sanitary service it will be recognised that in dealing with qualified Indian medical men and women trained in preventive medicine a corresponding status in the service must be given to them according to the responsibility placed on them. It is only by ungrudgingly treating the Indian sanitary service as a great and important branch in the Civil Service of the country that the best work will be obtained from it. The fewer sanitary inspectors there are probably the better. Sanitary inspectors are not usually a success in the East; monetary considerations are liable to destroy their utility. Doubtless the creation of a separate public health service in India will have a dislocating effect on the existing medical and sanitary administration of the country. Evidently the Royal College of Physicians foresaw this contingency, for no radical changes were recommended, but a scheme embodying a slow and progressive development towards the attainment of a separate and special department the sole duty of which in the first instance should be the prevention and mitigation of plague epidemics while this disease continued its ravages in India.

Let us turn to the recently published correspondence between the Government of India and the Secretary of State for India for information as to the views held by the former.[2] One of the main objections put forward by the Government of India to the organisation proposed by the Royal College of Physicians is its unsuitability to India, but the papers relating to the Punjab show that this province actually possesses on a very small scale an organisation not dissimilar from that which the Royal College of Physicians recommended. The province is stated to have a special plague staff consisting of ten medical men belonging to the Indian Medical Service, four physicians sent out from England, and a subordinate staff of 23 assistant surgeons and 38 hospital assistants. The difference between this and the scheme recommended by the Royal College of Physicians lies in the fact that in the latter qualified women are added, and the suggestion is made that there should be, to begin with, a similar organisation for at least four or five centres, that these centres should be used as training places for other medical men and women in order that other fresh centres could be formed where most needed, and that in this way a special plague organisation should be brought into being and developed. It is not likely to be contended seriously that 14 medical officers with a few native assistants can cope in the slightest degree effectually with such an epidemic as that which has been prevailing in the Punjab during the past seven years, even when there are added to this special organisation the 29 civil surgeons with their other duties. The Punjab is slightly larger than Great Britain. It is divided into five divisions, has 29 districts, and 140 small towns. It is only necessary to state these facts to make clear the absurdity of attempting to combat one of the worst epidemics known in history with 14 medical men and their assistants.

In the Madras Presidency, where plague has been kept under reasonable control, it is stated that the Royal College of Physicians' "scheme is for all practical purposes not materially different from that which is now in existence in this presidency," and we learn later that a sanitary organisation was begun in 1895—i.e., a year after a sanitary service was recommended to the Government of India by the Medical Congress held in Calcutta in 1894. A similar reply comes from the United Provinces of Oudh and Agra. So that in at least three provinces the principle of the proposed organisation has already been accepted and is in operation, which are facts that do not consort well with

[1] See THE LANCET, August 24th, 1907, p. 537.

[2] Correspondence regarding Measures for the Prevention of Plague. Wyman and Sons, London. 5½*d*.

the view that the proposals are not adapted to India or of any practical utility. Organisation on adequate and proper lines is the first essential in combating plague. Neither at the beginning of the plague nor after 11 years' experience does this fact appear to have impressed itself upon the Indian Government. It was not recognised when the initial mistake was made of reinforcing its medical service in 1897 by large numbers of troops. This circumstance is mentioned in the latest despatch apparently as rather a creditable proceeding instead of one which did more to assist in the complete failure which it deplores and in raising hostility to every measure connected with plague than any other factor. Nor was it recognised in the inoculation campaign in 1902, when the plague service was raised to 77 European medical officers, 37 of whom came from England, for the organisation was still inadequate for the purposes intended. Many of the more important operations had accordingly by order to be intrusted to compounders—i.e., to assistants very little different from Indian villagers, and in case of great stress of work the duty of actually opening the bottles of the prophylactic was to be intrusted to any of the intelligent villagers gathered together for the inoculation. We know the result. The campaign failed and the onus of the failure was hastily and mistakenly placed on the Bombay laboratory instead of on an inadequate organisation and the absence of coördination in the different departments working on plague.

Flies as Carriers of Disease.

ONE of the most striking of the discoveries made by pathologists in recent years has been that of the important part played by insects of various kinds in the conveyance of disease to mankind and to the lower animals. An entirely new field of research has thus been opened up and the revelation of a novel source of danger has suggested the adoption of prophylactic measures which would have seemed ridiculous only a generation ago. The first inkling of this source of infection was the hypothesis put forward by Sir PATRICK MANSON as to the origin of malarial infection in the bite of the mosquito, a suggestion brilliantly converted into certainty by the work of ROSS among our own countrymen and of the Italian observers GRASSI and BIGNAMI. It was not long before facts were brought forward tending to attribute to the insect world the responsibility for other serious diseases. In the case of yellow fever, although the causal agent has not yet been identified, it is pretty definitely established that another species of mosquito conveys the infection, an interesting point of contrast with malaria lying in the probability that the insect is here the definitive and man only the intermediate host of the parasite. Another disease produced by the bite of a blood-sucking insect is the deadly African lethargy or sleeping sickness caused by a trypanosome conveyed by the fly glossina palpalis. Nor is it only winged insects which carry infection, for the fleas which infest rats are generally believed to convey infection to human beings in epidemic outbreaks of plague. In this country we are fortunately not exposed to any serious dangers from the bites of disease-bearing insects, though from time to time cases of dangerous and even fatal cellulitis are reported due to the bite of a horse-fly infected with some virulent germ. But it is not only by direct inoculation that infection may be spread: food may be contaminated with pathogenic bacteria carried by insect scavengers and its consumption may give rise to fatal mischief. The very interesting paper by Dr. R. M. BUCHANAN[1] which recently appeared in our columns emphasises the reality of the danger to which we may be exposed by the agency of the common varieties of house-fly. Dr. BUCHANAN first points out how well adapted is the foot of the fly for carrying on it particles of any adhesive material over which the insect has crawled. Particles loaded with bacteria will readily adhere to its bristles and pads, to be smeared over the next object on which the fly settles. Food of almost all kinds attracts flies, which crawl over it if it is solid and too often fall into it when it is liquid, so that infection readily occurs. In Dr. BUCHANAN'S experiments flies were made to crawl over Petri dishes containing some nutrient medium and the resulting colonies of bacteria were counted and studied. It is satisfactory to find that flies caught in an enteric ward of a fever hospital did not give rise to any colonies of typhoid bacilli when thus treated; even when they were caused to crawl over actual fæcal matter the number of typhoid colonies which developed was very small as compared with the saprophytic organisms present. Still some colonies were observed to form. Staphylococci and tubercle bacilli were also capable of conveyance by the same means. Much more striking results were, however, obtained with the organisms of some epizootic diseases. Flies which had crawled over the carcass of a pig dead from swine fever readily conveyed a large number of the causal organisms to artificial media, and even more marked infection occurred from insects which had been brought into contract with a guinea-pig dead from anthrax. The bacilli of glanders were also carried on the feet of flies. Nor is Dr. BUCHANAN the only authority who has called attention to flies as a means of conveying disease. A notable communication by Dr. H. H. TOOTH,[2] based on his experiences during the South African war, drew a striking picture of the probable responsibility of the swarms of flies for the spread of the epidemic of enteric fever among the British troops in the field, and a similar view was maintained by Dr. A. B. DUNNE[3] who noted that the incidence and remission of typhoid infection corresponded very closely with the appearance of flies in the hot season and their disappearance as cold weather followed. It would seem, therefore, that it is not only in the laboratory but also under natural conditions that flies may act as carriers of disease.

The question, then, as to the actual amount of danger attributable in this country to such a source of infection is worthy of careful study. Fortunately in temperate climates flies do not abound to the same extent as in tropical and subtropical conditions. There they are capable of rendering life almost intolerable by their very multitude; those who have suffered from them will appreciate the horrors of the Egyptian Plague and sympathise with those ancient races who identified the chief power for evil with

[1] THE LANCET, July 27th, 1907, p. 216.
[2] Brit. Med. Jour., March 16th, 1901, pp. 642, 775.
[3] Ibid., March 8th, 1902, p. 662.

the Beelzebub, "Lord of the Flies." The proverb that "Dead flies cause the ointment of the apothecary to send forth a stinking savour" also bears witness to the antiquity of the evil and to the antagonism between the insects and the medical profession. In this country they are regarded merely as a minor nuisance, an enemy from whom meat has to be guarded rather through fear of resulting maggots than from any danger of more subtle contamination. It might even be suggested that they were useful as scavengers, clearing up all sorts of refuse; but this credit can scarcely be given to them, as they tend to wander rapidly from one source of food to another rather than to stay and to finish up any one delicacy; while it is probable that infective microbes would pass through the alimentary canal of the fly alive and would be deposited in undiminished virulence in some fresh spot together with their excreta. Regarding flies, then, as potential carriers of infection, two factors have to be taken into consideration, the existence of foci of contamination to which they have access and the possibility of their transferring the contagium to mankind or the lower animals. The principal human diseases prevalent in this country which flies have been accused of spreading are enteric fever and epidemic summer diarrhœa. In both of these the infective agent probably generally leaves the body of the patient in the stools and conveyance of infection to others by flies implies that these insects have access to fæcal matter. In ordinary circumstances this seems hardly likely to occur where there is a well-organised system of water drainage, though perhaps filter-beds at sewage farms may offer opportunities for such infection. It is otherwise in such places as still employ dry systems of sewage disposal, and attention was forcibly directed a few years ago to the resulting danger by Mr. A. W. MARTIN,[4] medical officer of health of Gorton, where the "privy-midden" system was in operation. In his opinion flies were largely responsible for the prevalence of the diseases just mentioned. In the case of epizootic diseases there would seem to be greater danger, since flies may settle on the dead bodies of animals which have succumbed to such affections as swine fever, anthrax, and glanders and may readily convey infection to the feeding troughs of others. Probably so long as the carcass remains entire the risk of the insects becoming contaminated with bacteria is small, but it is important that infective material should be destroyed by fire or, at all events, deeply buried as soon as an inspection of the carcass has been carried out. To insure due care in such cases it is desirable that the reality of the danger arising from this mode of conveyance should be generally recognised. Dr. BUCHANAN has done good work in proving experimentally what had previously been largely a matter of surmise. From the domestic point of view also the problem of preserving food of all kinds from the attentions of flies becomes one of greater urgency. Hitherto it has seemed but a small matter. But if *de minimis non curat lex*, science has proved that it is by attention to what appear to be small things that the greatest results may be achieved, and in this case a little forethought may avert serious danger.

[4] Public Health, 1902–03, xv., p. 652.

Lancashire Sanitation.[1]

IT is just over 30 years since the passing of the Public Health Act of 1875, a period of time supposed to correspond with a generation of human beings, and it might be hoped that sanitary knowledge had now become so widely diffused that it would be difficult to find any traces of the old condition of things, when drains were primitive or non-existent, houses often barely fit for habitation, and dairies and bakehouses managed with no regard to cleanliness or health. Unfortunately, such a hope is far from realisation even at the present day. In too many parts of the country progress has been slow and uncertain: money is more valued than health and the most necessary measures of sanitation are often neglected when they involve an addition to the rates. Instances of such parsimony are within the knowledge of all, but documentary evidence is also available in the reports made from time to time to the Local Government Board by its inspectors who are sent to investigate the sanitary condition of individual localities. A batch of such reports has recently been issued, dealing with a group of districts in Lancashire and the condition of things revealed in these papers is such as to cast a slur on the civilisation of a country in which they are possible. It is amazing to find that in the very suburbs of Manchester, in the district of Droylsden, over three-quarters of the houses are supplied only with midden-privies in place of water-flushed closets, that many houses are built with windows that are not made to open, and that indescribable filth is prevalent in many of the poorest houses. But this state of things is by no means confined to the district just mentioned. Midden-privies are common at Limehurst, Denton, and Failsworth. At Lees we are informed that 870 houses have only 685 closets of any sort between them and that groups of 13 or 14 houses exist with only four closets to the group. In several districts there is no isolation hospital for infectious cases other than small-pox: at Failsworth only eight out of 62 cases of scarlet fever were removed from their homes for treatment. Back-to-back houses are found in some of the districts with no possibility of through ventilation; common lodging-houses are allowed to be kept in a filthy and insanitary condition. What wonder, then, that infantile mortality is high in these areas where not only do the women go out to work in the factories but home conditions are such as has been described. And if the human habitations are so neglected can it be wondered at that the cowsheds are noted as unsatisfactory. It is altogether a shameful and distressing condition of affairs to exist among us at the outset of the twentieth century.

Lamentation over our backslidings is, however, unprofitable unless it leads to efforts at improvement, and with this object it is advisable to endeavour to establish the actual causes which lead to such hygienic failures. It is not difficult to discover some at least of the defects at present existing. First and foremost the position of the medical officer of health must be altered. He upholds in each district the teaching of science; to him the local governing

[1] Reports of Medical Inspectors of the Local Government Board, Nos. 263–268, 270, 271, and 273 (districts of Droylsden, Denton, Mossley, Failsworth, Lees, Hurst, Audenshaw, Ashton-under-Lyne, and Limehurst). 1907. Wyman and Sons, Limited, Fetter-lane, E.C.

body must look for guidance in all matters of health affecting its district. It is essential, therefore, that the conditions of appointment for these officers should be such as to enlist the services of the best men and to leave them sufficient time to devote to the important duties of their office. Further, these officers must be protected against undue influence brought to bear upon them by the representatives of local interests which may be affected by strict sanitary administration. It is notorious that in all these respects the present condition of affairs is highly unsatisfactory. Fair remuneration and fixity of tenure are alike wanting. In not one of the group of districts dealt with in the present series of reports is a medical officer of health appointed to give his whole time to the duties of his post. Further, for such time as they are able to devote to health matters these officers are paid salaries which are almost insulting. Thus at Denton the medical officer of health receives £40 per annum, while the inspector of nuisances is paid £250. At Lees and at Audenshaw the salaries of the medical officers are £20 and at Hurst £30. At Ashton-under-Lyne the medical officer of health, who had been paid £130 a year, died, and the town council appears to have thought the occasion a happy opportunity for retrenchment, for it not only passed over the candidate for the office who, in the opinion of the Local Government Board inspector, was best qualified to hold it, but it appointed a new officer for only six months at a salary of £40 for that period. Nor is this instance of cheeseparing policy unique, for, as we noted last week, the town council at Southend-on-Sea has similarly distinguished itself, practically dismissing a very capable and efficient officer and reducing the salary attached to the post from £600 to £500 per annum. Naturally, the Local Government Board does not view such proceedings with favour, but the powers of the Board are limited. At Ashton-under-Lyne the sanction of the Board was given to the raising of a loan for sanitary improvements on certain conditions; but the conditions were not fulfilled and seemingly no power exists to enforce them. It is clearly desirable that the powers of the central body should be enlarged, so as to enable it to deal with recalcitrant local authorities. If according to the elegant metaphor of Mr. WINSTON CHURCHILL it is desirable "to ginger" the local fathers in the matter of small holdings, much more is it needful in the domain of hygiene. It is certain that in many instances local bodies are unsuited to administer the laws of health, as personal interests are too likely to intervene and to warp their judgment. A change in the law is desirable so that the post of medical officer of health should be permanent, appointments being carefully supervised by the Local Government Board; and provision should be made that if a sanitary authority refuses to carry out the advice of its expert officer, an appeal should automatically be made to the Government department. Payment of health officers should be adequate to enable them to give their whole time to their public work, and if any district is too small or too poor to afford this, amalgamation of adjacent areas for purposes of sanitary administration should be insisted upon.

But it is not only the sluggishness of local authorities or the overworked state of their medical officers that stands in the way of progress. The habits of the classes who inhabit insanitary areas must be changed. No landlord can be expected to spend money on improving his houses when the tenants tear up and burn the wood work, sell the leaden pipes, and prefer a condition of filth to any attempt at cleanliness and decency. That such degraded habits exist is attested by the reports before us, and the conditions which produce them call for treatment. It is to education that we must look for a remedy and, unfortunately, true education spreads slowly. Yet it does spread gradually. The sanitary condition of the country as a whole shows a marvellous advance on the old state of things, and when among the subjects taught in our elementary schools is included instruction in the rudiments of hygiene we may hope that rich and poor alike will recognise their true interests and that slums with their attendant horrors will cease to constitute a blot on our civilisation.

Annotations.

"Ne quid nimis."

PRESERVATIVES AND DYES IN FOODS.

THE United States Department of Agriculture has issued a provisional "decision" on the question of the use of dyes, chemicals, and preservatives in foods. It has been determined in general that no drug, chemical, or harmful or deleterious dye or preservative may be used. Common salt, sugar, wood smoke, potable distilled liquors, vinegar, and condiments may be used. Saltpetre is allowed pending further inquiry. No prosecution, again, is to be instituted in the case of the application of the fumes of burning sulphur (SO_2) as usually employed in the manufacture of those foods and food products which contain aldehyde, sugars, and so on, with which sulphurous acid may combine if the total amount of sulphur dioxide in the finished product does not exceed 350 milligrammes per litre in wines or 350 milligrammes per kilogramme in other food products. Of this amount 70 milligrammes may exist in the free state. Foods and food products manufactured or packed during the season of 1907 which contain sodium benzoate in quantities not exceeding one-tenth of 1 per cent. or an equivalent of benzoic acid, will be permitted provided that it has been customary to use this preservative in such foods and food products. There is clearly no intention of the department to allow the use of preservatives to be extended. The label of each package of sulphured foods or of foods containing benzoic acid or benzoate must bear a statement that the food is preserved with this, that, or the other preservative, as the case may be. The department will not allow any statement on the label to the effect that the article is guaranteed to conform to the requirements of the Food and Drugs Act. The use of any dye, harmless or otherwise, to colour or to stain a food in a manner calculated to conceal damage or inferiority is specifically prohibited and the use in food for any purpose of any mineral dye or any coal-tar dye except certain ones which are listed will be grounds for prosecution. Pending further investigation now proceeding certain coal-tar dyes which are made specifically for use in foods and which bear a guarantee from the manufacturer that they are free from subsidiary products and represent the actual substance the name of which they bear may be used in foods. The list contains the following colourings. *Red shades:* amaranth, ponceau 3 R., erythrosin. *Orange shade:* orange I. *Yellow shade:* naphthol yellow S. *Green shade:* light green S.F. yellowish. *Blue shade:* indigo disulpho acid. So far the use of copper for colouring peas has not been finally determined, but for the present all vegetables

which are "greened" with copper salts and which do not contain an excessive amount of copper will be admitted to entry provided that the label bears a statement that salts of copper have been used. It seems to us that the American Government is convinced that the best policy is that which we have consistently urged for years in regard to all questions of fraud and adulteration, and that is to insist upon the use of an honest label. England has no statute applying to the prohibition or limitation of preservatives or colourings in food, but it still has the recommendations of a departmental committee which were drawn up six years ago! And so in 1907 the principal chemist of the Government laboratory is compelled to write in his report, which we noticed in our issue of August 24th, p. 542, "The figures show that butter frequently contains boron preservative in excess of the amount recommended as the limit by the Committee on Preservatives in Food, but in the absence of legislation on the point and in view of the conflicting decisions in the courts I have been unable to advise that proceedings should be taken." In the American bulletin it is stated that the views of "eminent physiologists, hygienists, health officers, and physicians in the United States" were obtained as to the propriety of using preservatives in food and a tabulation of these views points "overwhelmingly to the fact that preservatives, as a class, are injurious to health and hence their use is under the Act inhibited." THE LANCET, on its own initiative, collected similar evidence over ten years ago, but *festina lente* applies more to English than to American methods.

THE FOURTEENTH INTERNATIONAL CONGRESS OF HYGIENE AND DEMOGRAPHY.

THE Fourteenth International Congress of Hygiene and Demography is to be held in Berlin from Sept. 23rd to 29th, and Dr. Nietner, the secretary-general, asks us to give publicity to the following. Up to the present 2500 applications have been received from intending members of the Congress. As the number of applications on such occasions always grows larger and larger in the course of the last weeks previous to the meeting there may be some difficulty in procuring suitable lodgings. For that reason, and also to facilitate all necessary preparations, intending visitors are respectfully but urgently requested to send in their applications as soon as possible. As a large number of the members of the Congress are already on their way it has not been possible to send the last "conclusions" to the members living in distant countries. Members will, however, be handed everything they require in connexion with the Congress on calling at the office on their arrival. Dr. Nietner's address is 9 W., Eichhornstrasse 9, Berlin. Prince Heinrich von Schönaich Carolath has been elected President of the Congress. The Vice-Presidents are Professor Rubner, director of the Hygienic Institute of the University of Berlin, and Professor von Meyr of Munich. Several *Festschriften* will be printed and presented to the members of the Congress. The Imperial Statistical Office and the Imperial Health Office will issue jointly a volume entitled "The German Empire from a Hygienic and Demographic Standpoint." The Royal Prussian Cultus-ministerium (Ministry of Education) will present two volumes to the members of the Congress, of which one deals with measures for preventing the spread of epidemics whilst the other gives a description of the new premises of university clinics, laboratories, and other medical institutions of various Prussian universities. The city of Berlin will contribute a work on the Hygiene of the Metropolis. Every member on his arrival will receive a guide-book with a short description of about 120 hygienic and other institutions over which the members are to be shown. This guide-book is in German, French, and English. A committee, including the leading members of the medical profession of Berlin and representatives of the various medical societies, of the medical faculty, and of the Army Medical Corps, has been formed for the purpose of showing attention to the members of the Congress on behalf of the Berlin medical men. The committee has decided to arrange a reception on Sept. 28th in the Exhibition Hall, Hardenbergstrasse, where there is room for several thousand guests.

ALCOHOLISM AND CIRRHOSIS OF THE LIVER IN CHILDHOOD.

THE pathology of the coroners' courts as reported in the lay newspapers is frequently something to wonder at and recks but little of text-books or authorities. The reason is perhaps not far to seek. The medical practitioner in giving his evidence usually strips it so far as possible of technicalities in order to make clear to the members of the jury the conditions found by himself during his attendance on the case or at the post-mortem examination, while the coroner, if he happens to be a medical man, not infrequently further explains any obscurities. The brief abstracts published, however, often enable but little exact information to be drawn by those reading them. A recent case in point may be quoted in illustration. At the inquest on a child, aged three years and nine months, it came out in evidence that she had swallowed a considerable quantity of gin, apparently about two and a half fluid ounces and that when seen by a medical practitioner she was found to be unconscious and suffering from general convulsions. These were relieved by the administration of chloroform but death eventually occurred. The post-mortem examination, which was performed by Dr. L. Freyberger, appears to have revealed a condition of cirrhosis of the liver, which was hobnailed and weighed 16 ounces, while the spleen and the kidneys were firmer than usual, and in one report it is stated that the "child had an adult brain," whatever that may mean. Both Mr. H. Wheelwright, the practitioner in attendance, and Dr. Freyberger stated that death was due to failure of respiration following acute alcoholic poisoning and that the changes found post mortem could not be produced by a single dose but were those usually associated with chronic alcoholism. The coroner after the medical evidence adjourned the inquest in order to make inquiry regarding the parents, since the conditions found strongly suggested that this occasion was not the first on which the child had taken alcohol. At the adjourned inquiry evidence was forthcoming that the parents bore a very good character both in their business and domestic relations. An inspector of the National Society for the Prevention of Cruelty to Children said that they had "the highest of reputations for kindness to their children" and that he could not trace any fact pointing to the child having taken alcohol before. The coroner, in summing up, said that there must be a certain amount of doubt in the case and that the high character of the parents made it very perplexing when taken into consideration with the medical evidence. It may be of some interest briefly to consider the occurrence of cirrhosis of the liver in children, which, though rare, is well recognised as occurring. 65 cases were collected by Howard and 53 by Laure and Honorat, but in such groups the ages of the children have usually been between nine and 15 years. In a considerable proportion of these cases no cause could be found, although alcoholism was traced as a cause in 15 per cent. of Howard's cases. One special form of true cirrhosis in children is due to syphilis and has been described as parasyphilitic cirrhosis of children. In infancy and early childhood the condition is more rare and although some cases are due to syphilis, in others the actual causation eludes discovery. The view is gaining ground that alcohol is not the direct and only cause

of polylobular fibrosis of the liver, but that various causes, including alcohol, may lead to a condition favouring the action of some toxic agent, whether chemical or bacterial, which is the actual cause of the condition. In any case, it is wise to be extremely cautious in suggesting that the cause of a cirrhosis in a child is due to the taking of alcohol, as the history of the above case demonstrates.

THE SUMMER: JUNE 1st TO AUGUST 31st.

—	Mean maximum temperature.	Mean minimum temperature.	Mean temperature.	Difference from average.	Days with rain.	Total fall.	Difference from average.	Hours of sunshine.	Difference from average.
	°	°	°	°		Ins.	Ins.		Hrs.
Douglas, I.M. ...	60	50	54·6	−2·2	57	9·9	+0·9	530	− 64
Blackpool	62	51	56·3	−2·4	64	12·0	+3·2	533	− 17
Llandudno	63	52	57·5	−2·0	54	8·5	+1·0	509	− 47
Rhyl	62	52	57·1	*	59	7·1	−0·2	523	*
Aberystwyth ...	61	52	56·6	*	?	?	?	411	*
Bettws-y-Coed ...	63	50	56·4	−3·1	68	11·9	*	392	*
Llangammarch Wells	62	48	54·8	−3·2	68	15·2	+5·8	434	*
Scilly Isles	62	55	58·4	−1·6	52	3·5	−3·4	543	− 89
Jersey	65	54	59·7	−1·9	42	4·6	−2·3	646	− 27
Torquay	64	53	58·4	−2·4	47	4·4	−2·9	593	− 69
Sandown, I.W. ...	66	53	59·4	*	42	4·4	*	689	*
Bournemouth ...	66	51	58·4	*	39	4·2	*	622	*
Worthing	63	53	57·9	−2·6	40	4·1	−2·3	631	*
Brighton	64	53	58·4	−2·8	39	3·6	−2·9	591	− 84
Eastbourne	61	52	56·6	−4·0	40	4·4	−2·5	656	− 14
Hastings	64	52	57·7	−1·9	43	6·3	−0·3	590	− 92
Folkestone	63	51	57·1	*	34	4·1	−2·4	606	*
Margate	66	53	59·1	−1·5	36	4·7	−1·2	550	− 32
Clacton	65	52	58·5	−2·9	37	4·5	*	552	*
Lowestoft	64	50	56·9	−2·3	31	3·4	−3·2	549	*
Skegness	63	49	56·2	*	48	4·1	*	566	*
Scarborough	63	50	56·2	+1·9	46	5·6	−1·9	473	− 36
Aberdeen	60	47	53·5	−2·3	61	7·5	−0·4	422	− 81
Harrogate	62	47	54·7	−2·7	50	6·7	−0·7	462	− 97
Bath	65	52	58·1	−2·6	52	9·1	+1·2	547	*
Tunbridge Wells ...	65	50	57·4	−2·7	42	6·4	−0·6	549	− 58
Nottingham	65	49	57·0	−3·1	53	7·0	−0·5	459	*
Birmingham	63	50	56·5	−2·6	47	7·3	−0·8	429	− 50
Oxford	65	50	57·6	−2·7	53	7·6	+0·4	472	−109
London	66	53	59·2	−2·9	42	4·8	−2·2	489	− 26
Manchester	63	51	56·8	−1·9	65	13·2	+3·0	359	*
Glasgow	60	49	54·3	−2·6	62	12·3	+2·1	359	− 82

* No trustworthy average.

All the above figures, excepting those for Sandown, have been computed from the reports published daily or weekly by the Meteorological Office, and it is therefore permissible to suppose that they represent accurately the temperature, rainfall, and bright sunshine of the past summer at the various observing stations. It will be seen that the mean temperature for the three months was everywhere below the average, the defect ranging from about two degrees to four degrees. The absence of heat was generally much more marked during June than during the two subsequent months, but throughout the whole period there were extremely few afternoons with an average temperature for the time of year. Most of the nights were also cold, but as a rule the divergence from the normal was less after sunset than during the daytime. The daily range of temperature was consequently considerably smaller than is usual in summer, and this fact probably accounts to some extent for the generally low death returns. But there were other elements which also tended to render the weather of the summer more than usually favourable to health, and if a meteorologist were asked to give his opinion he would probably say that besides the equability of temperature the other contributing causes were (1) the very frequent slight falls of rain that had such a cleansing effect upon the atmosphere, and (2) the relatively great velocity of the wind, which prevented the air becoming stagnant in the large cities. One of the chief features of the season was, indeed, the very large number of days when the wind from some point of the compass between west and south blew strongly or briskly. The air was thus never allowed to rest, but a pretty constant fresh stream was always arriving from the broad Atlantic. Under such conditions a summer is certain to be cool in this country, just as a winter cannot help being mild. In the summer the air has no time to be warmed by radiated heat from the earth and in winter it is in too great a hurry to be cooled from a like cause. Shade temperature readings of 70° and above were remarkably rare. In London (Westminster) there was only one in June, nine in July, and 12 in August, and the highest temperature of the whole year at the same well-exposed station was not during summer at all, but on May 12th, when the thermometer rose to 79°. Days with more or less rain were very numerous, but except in the north and north-west and in a few scattered localities elsewhere the aggregate fall was small. Nearly everywhere July and August were dry, the heavy amounts in the north-west being the result of a wet June. The driest spots were in the extreme east of England and at the Scilly Isles, Lowestoft having no more than 3·4 inches and the Scilly Isles only 3·5 inches. In the extreme south-east only about one day in three was rainy, while in the north-west there was only about one day in three without rain. Sunshine, like temperature, was below the average throughout the entire kingdom, but in several localities the deficiency was very small. At Eastbourne it was not more than 14 hours, at Blackpool 17 hours, and in London 26 hours. Omitting the large aggregate of 689 hours at Sandown, the records of which were presumably not examined by the Meteorological Office, the sunniest place given in the table was Eastbourne with 656 hours, followed very closely by Jersey and Worthing, while the most sunless spots were Manchester and Glasgow, each with 359 hours. These two populous cities received less than four hours' sunshine per day, while Eastbourne enjoyed rather more than seven hours and London more than five and a quarter hours per day. The record for London was very satisfactory, its total of 489 hours being only 20 hours less than that at Llandudno, 60 more than at Birmingham, and 27 more than at Harrogate. During the corresponding period of 1906 the metropolis recorded 693 hours and the number of hours at Torquay, Bournemouth, Clacton, and several other resorts on the south and south-east coasts exceeded 750.

FATAL HÆMORRHAGE FROM THE JUGULAR VEIN IN CHRONIC OTITIS MEDIA.

IN the *Boston Medical and Surgical Journal* of July 4th Dr. F. L. Jack and Dr. F. H. Verhoeff have reported a case of chronic otitis media which terminated in an unusual manner—by fatal hæmorrhage from the jugular vein. A girl, aged two and a half years, was taken to hospital. She had been in good health until two weeks previously, when she became fretful and evidently was in pain. A swelling had been noticed behind the right ear for nearly a week and a discharge of pus from the ear for several days. There was much coagulated blood in the meatus. Over the tip of the mastoid, extending about one inch below and one and a half inches posteriorly was a large, tender, and fluctuating swelling of the size of a Tangerine orange. The child was admitted and two hours later severe hæmorrhage occurred from the mouth and nose. When the house surgeon

arrived she was exsanguine and was not breathing. There were clots in the mouth and nares and signs of vomiting on the clothing. Adrenalin and normal saline solution were injected subcutaneously and artificial respiration was employed, but without avail. At the necropsy, which was performed 19 hours after death, both nostrils and the right auditory meatus were found filled with clotted blood. Below and behind the meatus was a swelling of the size of an olive, over which the skin was ecchymosed. The meninges and brain were normal. The venous sinuses, including the right lateral sinus and bulb, were intact. The whole temporal bone with a large amount of the soft tissues beneath and a portion of the wall of the pharynx were removed and hardened for 48 hours in 10 per cent. solution of formalin. A stream of water could be forced through the carotid canal without finding its way into the tympanum. The soft tissues beneath the bone which contained the carotid artery and jugular veins were infiltrated with blood and there was a large hæmorrhagic extravasation which communicated with the pharynx a short distance below the mouth of the Eustachian tube. The extravasation extended outward to the angle of the jaw, undermined the subcutaneous tissue, formed the swelling previously mentioned, and communicated with the lumen of the external auditory canal. The tympanic membrane was intact but was retracted and united to the promontory, evidently as the result of an old perforation. The tympanum and Eustachian tube contained much exudation but no blood. Attached to the walls of the tympanum were several small polypi. The attic and mastoid cells were filled with exudation but were not necrotic. Microscopic examination revealed the characteristic appearances of chronic suppurative otitis media. The carotid artery was normal but its sheath showed chronic inflammation as far as the first bend in the bony canal, most marked at the entrance of the latter. The sheath for a short distance was infiltrated with blood which had forced its way from the large hæmorrhage beneath the temporal bone. The soft tissues in which this hæmorrhage had taken place were involved in granulation tissues in which were large areas of pus cells. The wall of the jugular vein which passed through this abscess was necrotic, lined with purulent thrombi, and in places perforated. Sections of the abscess stained by Gram's method showed numerous streptococci but no other bacteria.

INFANT MORTALITY IN HUDDERSFIELD.

IT is not without interest to note the apparent effect on infant mortality of the local Act which was passed last year and enacted the early notification of births occurring within the borough of Huddersfield to the sanitary authority. The rate of infant mortality—of deaths under one year of age—in Huddersfield during 1905 was equal to 119 per 1000 births and rose during 1906 to 135 per 1000, the average rate in the 76 large English towns showing an increase from 140 in 1905 to 145 in 1906. Thus the rate of infant mortality in Huddersfield, which was 15 per cent. below the large urban rate in 1905, was only 7 per cent. below the same average in 1906. It must be remembered that the Birth Notification Act did not come into operation in Huddersfield until late in 1906, but bearing in mind the voluntary efforts made by the mayor and sanitary authority to promote early notification of births prior to the passing of the Act the figures noted above were somewhat disappointing. During the first six months of this year the rate of infant mortality in the 76 large towns was equal to 123 per 1000 births and the rate in Huddersfield did not exceed 97 per 1000; thus the Huddersfield rate was 21 per cent. below the mean large urban rate. The interesting point for consideration is whether this relative reduction in the rate of infantile mortality in Huddersfield during the first half of this year, compared with the mean rate in other large towns, can safely be attributed to the operation of the Huddersfield local Act. During the six weeks of unsummerlike weather and temperature ending on August 10th, which has checked the usual fatality of summer diarrhœa, the rate of infant mortality in our large towns has fallen to 96 per 1000, while in Huddersfield it has not exceeded 38 per 1000. The evidence of these statistics seems therefore to point to the successful administration of the Huddersfield local Act since the beginning of this year as the cause of the recent reduction of infant mortality in that town. In view of the new Act making early notification compulsory the effect of the local measure in Huddersfield on infant mortality acquires much importance.

FATAL HÆMOLYSIS FOLLOWING TRANSFUSION OF BLOOD.

IN November, 1906, Dr. Crile published in the *Journal of the American Medical Association* an important paper recommending as the best method of transfusion of blood anastomosis of the proximal end of an artery of the donor to the proximal end of a vein of the receiver.[1] Since that period the method has been tried in the treatment of anæmia in America at times with favourable results, at others without much apparent change. In the *Journal of the American Medical Association* of August 3rd Dr. William Pepper and Dr. Verner Nisbet have reported a case in which fatal hæmolysis followed—an observation of great importance because transfusion of blood has always been regarded as innocuous. A man, aged 33 years, was admitted to hospital on April 16th last. In October, 1906, it was noticed that his naturally pale complexion was becoming paler and tinnitus and nocturnal bleeding from the gums began. The bleeding gradually became more severe and took place both by day and by night for ten days preceding admission. Blood was also passed in the urine and fæces. 11 years before admission the patient had a hard sore on the penis which was followed by a rash, and he was treated for syphilis for six months. On admission the temperature was 93° F. and the pulse was 108. The skin was of a dirty lemon colour. The lymphatic glands in the axillæ and groins were palpable. The mucous membranes were very pale and the lips were blood-stained. Blood oozed continuously from the gums. The cardiac dulness extended above the third rib, to the right one centimetre beyond the sternal margin, and to the left three centimetres outside the nipple line. The first sound was loud and was accompanied at the apex by a rough murmur. A systolic murmur was also heard in the third interspace and was not transmitted to the vessels of the neck, over which a humming sound was heard. The pulmonary second sound was accentuated. Blood examination showed 20 per cent. of hæmoglobin and 970,000 red and 3600 white corpuscles per cubic millimetre. Blood was not found in the urine but was present in the fæces. The bleeding continued and the patient steadily lost ground. The diagnosis was obscure. Of hæmophilia there was no history. Scurvy was negatived by the absence of changes in the gums or intramuscular or subdermal effusions. The morphology of the blood excluded pernicious anæmia. On April 26th the patient seemed to be sinking rapidly. A large vein on the left elbow was anastomosed with his wife's left radial artery at 5 52 P.M. and transfusion was continued until 7.25 P.M. Both husband and wife stood the operation well. The red corpuscles at 5 50 P.M. were 420,000; at 7.15 P.M. they were 1,001,000. The bleeding from the gums almost ceased and the patient's colour improved. On the 28th he was much better and there was merely a trace of hæmorrhage from the gums. Transfusion was performed from the

[1] THE LANCET, Dec. 22nd, 1906, p. 1737.

radial artery of the patient's brother-in-law. This raised the red corpuscles from 1,270,000 to 1,800,000. In the evening the patient was flushed and lethargic and perspired much. The temperature was 102°. On the 29th he was very jaundiced. The temperature rose to 104°. The arms were painful and swollen and the hands were œdematous. The liver increased in size and became tender and the spleen was palpable. Petechiæ appeared. The urine contained urobilin, hæmoglobin, blood, and many casts. After the first transfusion the urine became slightly reddish and contained a little urobilin, suggesting hæmolysis, but this condition had nearly disappeared at the time of the second transfusion. During the night after the second transfusion the urine became bloody and subsequently its condition showed a direct relation with the jaundice, oppression, and other evidences of hæmolysis. On April 30th the jaundice was worse, the temperature was still high, and the mouth was very dry but not bleeding. Death occurred on May 3rd. The necropsy showed numerous small pulmonary hæmorrhages, dilatation of the heart, and acute parenchymatous nephritis with subcapsular ecchymoses. The cases reported by Dr. Crile seem to show that direct transfusion is a safe procedure in hæmorrhage. But the present case indicates that there may be danger of hæmolysis in certain pathological conditions.

HYPERSUSCEPTIBILITY AND IMMUNITY.

THAT nothing in nature is too trivial to be worth recording is now a commonplace of science. Light is often shed on important problems from the most unexpected quarters. An instance may, perhaps, be seen in some recent researches carried out by Dr. M. J. Rosenau and Dr. J. F. Anderson on the somewhat obscure phenomena of hypersusceptibility[1] produced in animals by injections of foreign serum. The observation upon which these studies were based was the discovery that if an animal were injected with a dose of horse-serum and subsequently received a second dose of the same after some days' interval serious and even fatal symptoms were produced. From further experiments it appears that the same phenomenon results from the injection of other albuminous substances, such as white of egg or even extract of yeast, and that an interval of about ten days must elapse before the condition of hypersensibility is fully developed. This condition is transmitted by the mother to her offspring but not by the father. The administration of uncooked meat results in the production of some degree of susceptibility to the albumins of the animal eaten, but this result is prevented by thorough cooking of the meat. The explanation of the phenomenon is not very clear, but "profound chemical changes, perhaps in the central nervous system, are probably produced by the first injection of a strange serum." The interesting suggestion is made by the writers that the incubation period of an infectious disease—often a period of about ten days, corresponding closely with that needed for the production of hypersusceptibility—may be explained by the existence of some similar action, while the analogy with the phenomena seen after injection of tuberculin is obvious. The still more curious feature seen in some diseases, the occurrence of a crisis, may perhaps prove to come under the same law. These observations have also a bearing upon the production of immunity, the writers holding that a condition of hypersusceptibility is probably necessary as a stage in the production of immunity to one class of diseases. It corresponds to some extent with the "negative phase" or diminished resistance seen after inoculation with bacteria or their toxins. Thus hypersusceptibility produced in guinea-pigs by extracts of some varieties of bacteria (typhoid, colon) was followed by a definite immunity to the corresponding infection but this was not the case with the bacilli of anthrax.

[1] Rosenau and Anderson: Studies upon Hypersusceptibility and Immunity, Bulletin No. 36, Hyg. Lab., U.S. Public Health and Mar. Hosp. Serv., Wash., 1907.

TRADE CUSTOMS.

THE term "trade customs" in some quarters appears to be the modern synonym for malpractices. So many defendants shelter themselves, or attempt to shelter themselves, behind the plea of trade custom that it would be interesting to have a list published of "trade customs." The public have a right to know what trade customs are. We doubt very much if the public know quite so much about them as the trade. Police-court proceedings enlighten us considerably at times, but there are so many "trade customs" that we plead for a glossary of them. We fancy that we should be fairly safe in saying that such a compilation would open our eyes to a string of petty practices designed more or less to cheat the purchasing public: trade customs, in fact, which though approved by the trade are, strictly speaking, illegal transactions. We should like to see appointed a Royal Commission on "trade customs." The selection of the Commissioners, who, of course, would be authorities on the subject, would be interesting and the evidence of the witnesses would at least be amusing if not instructive. The final report would have the word "swindle" written in every one of its conclusions—that is to say, if the Commissioners honestly set about their business. These may be strong words, but day by day we read in police-court proceedings how indictment after indictment is met by the sickening excuse of "trade customs." Brown paper is found in the soles of boots; it is a trade custom. Silk containing cotton is sold as pure silk; it is a common practice of the trade and therefore a justifiable one, because the trade recognises it. It is also at times the trade custom to call an article brandy which is not brandy, soda-water which is not soda-water, butter which is not butter, and so on *ad infinitum*. In fine, it will be found that "trade customs" as a rule do not call a spade a spade and things are not what they seem. The term "trade customs" is a cloak, is not in many instances honest, and in an equal number of instances exists to evade the law. The law should recognise no trade custom which is not straight dealing.

THE FREQUENCY OF THE BABINSKI SIGN IN GENERAL PARALYSIS.

Dr. Alfred Gordon contributes an interesting paper entitled "A Study of Reflexes of the Lower Extremities in 60 cases of Paresis" to the July (1907) issue of the *Journal of Nervous and Mental Disease* (America). He refers to the general agreement by most authorities that the Babinski sign is rarely present in cases of general paralysis. Robert and Fournial (*Revue Neurologique*, Nov. 21, 1906) reported that out of 66 cases of paretic dementia they had only found it present in one patient. As Dr. Gordon states, the reason for this infrequency is not easy to explain when it is borne in mind that the involvement of the motor tract in general paralysis is the rule and further that the Babinski reflex is unquestionably a sign of an involvement of the motor pathway in its central or terminal ends. Dr. Gordon showed in his first clinical studies[1] that the "paradoxical reflex" is "a sign of irritation or early stage of a lesion of the motor tract," and he considered that it would be of some pathogenetic value to study the relationship of this reflex and the Babinski sign in general paralysis. He refers to Wyruboff's work in the *Revue Neurologique*, 1900, in which he showed that, from the anatomico-clinical standpoint, all cases of general paralysis can be divided

[1] Journal of Nervous and Mental Disease, July, 1906.

into three groups: (1) the first concerns cases characterised by markedly exaggerated knee-jerks and anatomically by a degeneration of the posterior columns in the thoracic region and a recent degeneration of the pyramidal bundles; (2) in the second group the knee-jerks are abolished, which corresponds to a considerable degeneration of the posterior columns in the lumbar regions and some degeneration of the pyramidal tracts; and (3) in the third group there is a marked degeneration of the posterior columns throughout the entire cord, and, again, some changes in the pyramidal bundles. Dr. Gordon concludes from these studies that although "the motor pathway is always involved nevertheless it is only to a very slight degree in the majority of cases." As Babinski's sign is usually the clinical expression of a well-defined degenerative lesion of the motor tract the very moderate degree of pyramidal involvement will perhaps satisfactorily explain the rarity of the "phénomène des orteils" in paresis. He goes on to state that, "on the other hand, the study of the paradoxical reflex in organic nervous diseases suggests very strongly that it is the expression of a slight or early involvement of the motor tract." He found that in 60 cases of well-developed general paralysis which he examined the paradoxical reflex was present in 42 instances and that in 39 of these the knee-jerks were increased and absent in the remaining three. The Babinski sign was present on both sides in only three of the cases and in four others on one side only. Further, he found that in all except two cases when the Babinski sign was present the paradoxical reflex was absent and *vice versâ*. He then passes on to consider Oppenheim's reflex in relation to the Babinski sign and the paradoxical reflex in general paralysis and finally sums up his conclusions as follows: "the old triad of reflex phenomena—viz., exaggerated knee-jerks, ankle-clonus, and Bakinski's sign—which we are accustomed to find in hemiplegia, or in any other organic disease with a distinct degenerative lesion in the motor pathway, is here markedly dissociated. While the first is present in the majority of my cases, the other two are rare. Of the two more recently described reflexes, Oppenheim's is also rare, while the paradoxical is frequent."

THE "GOUTTES DE LAIT" INTERNATIONAL CONGRESS AT BRUSSELS.

THE Second International Congress of Gouttes de Lait is being held in Brussels from Sept. 12th to 16th inclusive, the first Congress having been held in Paris in October, 1905. The work of these congresses may be summarised under three headings: First, to give advice to mothers; secondly, to encourage breast-feeding; and thirdly, to distribute milk to those infants for whom breast-feeding is either impossible or insufficient. The present Congress is divided into two sections, the first concerned with social and philanthropic questions and the second with the problems of infant hygiene. Foreign delegates may address the Congress in their own language and interpreters are attached to the sections. The main question to be discussed at the general meeting is as follows: "Is it advisable to widen the scope of the congresses of 'Gouttes de Lait' so as to include in their programmes all questions relating to the protection of child life, and should forthcoming congresses bear a new name which will denote the change?" In section 1 the following questions and subjects are to be considered:—

1. Are the "Gouttes de Lait" and other institutions for the protection of infant life satisfactory means for the prevention of tuberculosis, and can they be considered as forming the first necessary step in the solution of the problem of the prevention of tuberculosis? 2. An account of the legislation of different countries concerning the control of the production and distribution of milk. Special stress will be laid in the papers on the measures taken in certain towns for the control of infants' milk. 3. (*a*) Description of institutions of different countries for the prevention of infantile mortality. (*b*) Exact statistics of infantile mortality in each country.

In the second section the following matters are to be discussed:—

4. (*a*) The regulation of infant feeding: (1) breast feeding; (2) artificial feeding. (*b*) Study of digestion in infancy (glandular appendages of the alimentary canal, intestinal flora, fæces, &c.). 5. (*a*) The different milks used in artificial feeding, and the indications for their use. (*b*) Practical and rapid clinical methods of analysing milks. 6. Instruction in the hygiene of infancy by official and private agencies, and its popularisation in different countries.

The Congress is held under the patronage of their Royal Highnesses the Prince and Princess Albert of Belgium, and the general secretary of the Congress is Dr. Eugene Lust, Rue de la Limite, 27, Brussels.

THE ROYAL SOCIETY OF MEDICINE: CLINICAL SECTION.

THE meetings of the Clinical Section of the Royal Society of Medicine will, during the coming session, be conducted on lines somewhat modified from those of its predecessor the Clinical Society of London. It is proposed that during the first half of each meeting medical and surgical cases shall be exhibited and that the remainder of the meeting shall be devoted to the reading of papers. The latter will deal exclusively with the records of cases and clinical methods. The number of meetings during the session has been reduced to eight, and the first meeting will be held on Friday, Oct. 11th.

THE PRODUCTION OF ŒDEMA.

THE question as to the mechanism by which the œdema characteristic of cardiac failure and of renal disease is produced is among the most interesting problems of pathology and distinguished workers have given varying answers to it. Thus Heidenhain, who found that certain substances such as leech extract were capable of causing the escape of lymph from the vessels into the surrounding tissue, inferred that formation of lymph was due to a secretory action of the cells in the capillary walls and that dropsy was caused by overaction of these cells. Professor E. H. Starling, as the outcome of very ingenious experiments, threw doubt on this vital action. He found that by injecting into the blood harmless crystalloid bodies such as glucose it was possible to produce an inflow of lymph into the blood-vessels, resulting in a condition of hydræmic plethora or increase in the total amount of blood with diminution in its density. Œdema, he held, was caused by the resulting rise of pressure in the capillaries, assisted by changes in their walls. He endeavoured to bring the phenomena of cardiac dropsy into line with these observations by assuming a similar inflow of lymph to take place as the result of diminished pressure in the veins. This diminution of pressure was inferred to exist from the observation that obstruction of one of the large veins, though producing a rise of venous pressure near the heart, was accompanied by a shrinking in bulk of the limbs as shown by a plethysmograph—a phenomenon attributed to a fall in vascular tension. Dr. Charles Bolton has recently, in a communication read before the Royal Society on Jan. 17th, come forward to break a lance with Professor Starling over the reality of the condition of hydræmic plethora in such cases. He disputes the accuracy of the inference on which it is founded, as he finds that the result of obstructing one of the venæ cavæ is to produce a transitory rise of pressure in the veins of the limbs which quickly falls to normal owing to a compensatory dilatation of communicating channels, and that the œdema occurs at a time when there is normal venous, and either normal or diminished arterial, pressure. Hence in his view the escape of lymph which constitutes œdema is not due either to increased pressure in the capillaries or to hydræmic plethora. He attributes it to alteration in the capillary walls, though the exact cause of this alteration is not clear

from his observations. It may be induced by the initial rise of pressure, though the effects are not visible till this has passed off, or it may be caused by some retraction of the blood stream in the veins. Manifestly the question is not yet settled, though all observers seem at one in assuming an alteration in the cells constituting the walls of the capillaries—a view which appears to bring passive effusions into line with those due to inflammation, the change being possibly one of degree, not of kind.

DEAF CHILDREN IN ELEMENTARY SCHOOLS.

A DISCUSSION of some importance took place in the ninth section of the recent International Congress on School Hygiene with regard to the arrangements to be made for children suffering from defects of hearing. Dr. J. Kerr Love recommended that those who were merely "hard of hearing" and some of the better cases of the semi-deaf should be taught in special classes in the ordinary schools. Worse cases, including the intelligent deaf-mutes, should attend special day-schools or oral residential schools, while those deaf-mutes who proved failures in oral classes and those of defective intelligence should have manual alphabet teaching in a residential institution. Mr. P. Macleod Yearsley laid stress upon the difficulties of making ignorant or indifferent parents provide the necessary medical treatment for their children who suffer from ear disease and advocated the passage of special legislation to deal with such cases. If this were impracticable he would institute lectures to parents on aural defects and appoint officers to deal with the careless and refractory. After a discussion on papers read the section unanimously resolved that it was desirable to provide special classes for those deaf children who could most suitably be taught in a "hearing environment," under the control of teachers qualified to teach articulation and lip-reading to the deaf, the classes to be subject to special legislation dealing with deaf children. Certainly nothing but good can come of the efforts of the Congress to call public attention to the needs of these sufferers and from full discussion of the problems involved in their education. Difficulties will almost certainly arise in many schools as to provision of separate class-rooms for deaf children, for it seems scarcely possible to give them their lessons in the same room as other classes. It would be necessary to group the schools in some way, so that the special classes could be held at convenient centres. This, however, is only a matter of organisation and presents no particular difficulty. The training of the necessary number of qualified teachers will further have to be arranged.

RUPTURE OF A BRONCHUS.

IN THE LANCET of Sept. 7th, p. 694, appeared an account of a case which was under the care of Mr. W. H. Bowen in the East London Children's Hospital, Shadwell, and which was recorded by Dr. W. Norman May. The patient was a boy, 15 years old, who had been injured by the wheel of a van passing over his head. He was found to have a double depressed fracture of the skull and pneumothorax. The skull lesion was treated and it was apparently doing well, but the boy died 26 hours after the accident from the thoracic condition. At the necropsy it was found that the right bronchus had been torn completely across immediately below the bifurcation of the trachea, the torn ends being separated about half an inch. There was no blood in the pleural cavity and the ribs, clavicles, and pleuræ were quite intact. Complete or even partial rupture of a bronchus is a very rare condition and when it does occur it is nearly always associated with, and due to, fracture of a rib or the sternum, the sharp edge of the broken bone being the direct cause of the rupture. In the case above mentioned, which Dr. May has described, all the ribs were intact and therefore this explanation is inadmissible. A possible explanation is that the chest was much compressed by the heavy wheel of the wagon, and then the pressure on the lung forcibly tore it away with the bronchus from the trachea. Mr. A. Marmaduke Sheild exhibited a specimen at a meeting of the Pathological Society of London on March 19th, 1889, showing complete rupture of the left bronchus. A man, 47 years old, was crushed between the pole of a van and a wall. In addition to other injuries to the chest the third and fourth ribs were broken and the left bronchus was torn completely through close to its junction with the trachea. In this case it is probable that the bronchus was torn by one of the broken ribs. It is curious that so little is to be found in the text-books relating to this rare though important lesion, and though specimens are to be seen in several museums very few histories are obtainable.

EPIDEMIC CEREBRO-SPINAL FEVER.

AT the annual congress of the Incorporated Sanitary Association of Scotland, held at Aberdeen on Sept. 5th and 6th, a discussion on epidemic cerebro-spinal fever was opened by Dr. A. K. Chalmers, medical officer of health of Glasgow. Dr. R. M. Buchanan, bacteriologist to the Glasgow corporation, read a paper on the Examination of Cerebro-spinal Fever Contacts. He said that the meningococcus existed in the naso-pharynx of a large proportion (26·3 per cent.) of the healthy persons who had been in close contact with cases of the disease and that such persons, acting as carriers of the meningococcus, provided a very large source of potential infection. Dr. W. Leslie Mackenzie said that during the last six months 1611 cases had been reported to the Scottish Local Government Board and that 648 of these were in Glasgow. In Scotland during the week ended Sept. 7th there were eight deaths from this cause registered in Glasgow and one in Edinburgh. In Belfast during the same period there were five deaths registered as being due to this cause.

A TELEGRAM from the Governor of the Mauritius received at the Colonial Office on Sept. 6th states that for the week ended Sept. 5th there were 5 cases of plague and 4 deaths from the disease. As regards Hong-Kong, a telegram from the Governor received at the Colonial Office on Sept. 9th states that for the week ending Sept. 7th there were 5 cases of plague and 5 deaths from the disease. The department of public health of Queensland, in a bulletin dated August 3rd, states that no case of plague had occurred in Brisbane since July 26th. As regards the Cape Colony, the medical officer of health for the colony states that for the week ended August 17th no case of plague occurred in King William's Town or district.

THE tablet to the memory of the late Robert Barnes, M.D. Lond., will be unveiled in the Robert Barnes Laboratory of St. George's Hospital at 3.45 P.M. on Tuesday, Oct. 1st.

POLLUTION OF THE RIVER YEO.—At a meeting of the Yeovil rural district council held on Sept. 2nd a report of a series of analyses by the county analyst (Dr. H. J. Alford) of samples of water taken from the river Yeo below the outfall from the Yeovil corporation's sewage works was read. The report indicated that the stream was largely polluted with sewage and one sample contained arsenic in appreciable quantity. Arsenic is used in the preparation of the leather for the glove manufacturers. After some discussion the chairman said he did not see that the council could do anything at present in the matter and added "that the Yeovil town council were at their wits' end over the pollution of the river."

NOTES UPON HEALTH RESORTS.

SOME MEMORANDA ON THE ITALIAN LAKES.

BY H. B. T. SYMONS, L.R.C.P. IREL., &c.

THE Lakes of Lombardy, with the adjacent and mainly Swiss Lake of Lugano, probably form the chief intermediate climatic station in Europe. An annual convergence of visitors arrives from north, south, east, and west, or, to speak more precisely, there are two such convergences—one at the end of winter and one at the end of summer. It is therefore not remarkable that, in view of the increase of travel, sojourners in this region should have multiplied 100 per cent. during the past decade. It is possible, then, to reach the lakes from the four cardinal points of the compass. To those arriving from Great Britain—they can do so in a day's travel—Lake Maggiore is first attained. The greater number of travellers go on, in the first case, to Como. The favourite months are May and September. In the spring the weather, when fine, is unsurpassable; when it is bad, and the spring is the most rainy season, it is extremely so. Viewed in this light the autumn, being drier, is preferable. Como for the climatologist presents no special indications as to locality. The centre of lakeland is called the basin of Tremezzina, where the lake bifurcates Y-like. Places on the right bank have more sun. At random I specify one on either side of the lake, and in different localities of the lake, which are well adapted to the health-seeker's wants. Steamers afford ready and pleasant means of connexion between places to be visited.

First in order of these the Villa Serbelloni may be mentioned. It crowns the promontory of Bellagio, the centre of the "Y." It is possibly the oldest inhabited place on the lake whose records have been preserved, and I incline to think that it is still the most beautiful. Once a stronghold and afterwards a villa, it is now a hotel not over-frequented, select, but expensive. The grounds are magnificent. There is an English colony at Cadenabbia opposite on the left shore of the lake. The second of these places is the Villa d'Este, Cernobbio, which was formerly the residence of Queen Caroline during her voluntary exile from England in the early part of the nineteenth century. This spacious house seemed to be for a long time infected with a gloomy dignity to which modern hotel methods have now succeeded.

The journey between Lake Como and Lake Lugano may be made by rail at either end or in the middle from Argegno on Como to Osteno. If the last route be taken a sharp ascent of some 2000 feet has to be climbed, through the Val d'Intelvi. At the head of the valley is Lanzo d'Intelvi, a growing resort suitable for early summer and autumn in the main. In view of its moderate elevation, 3000 feet, it has attractions to those desiring to pass the summer in the locality of the lakes and to avoid excessive altitude. The nights are fresh and its position on the mountain side looking northward to the Bernese Oberland is such as to render it cooler than many places of similar elevation.

A new funicular railway has just been opened from Lanzo to Osteno. The approach from Lugano will thus be much facilitated, which town one passes through in retracing the way to Lake Maggiore. On Lake Maggiore there are two places that have been praised for the climate to be found there, Pallanza and Locarno, both looking full south. The former has mostly German visitors and the chief hotel is arranged according to Teutonic ideas of comfort. A thick coppice of yew trees surrounds the building. Locarno presents surroundings of a markedly pleasing character. The contour of the hills at the lake-head makes for all that is delightful in alpine form and colour. To my mind the place is rather over-rated climatically. As a specimen of the statements which pass from book to book so much in matters of climate without challenge one finds those on Locarno apt to be specially fallacious; it is commonly credited with furnishing an all but tropical climate. Even such writers as Dr. I. Burney Yeo and Mr. R. Bagot, the well-known writer on Italian subjects, have been somehow misled on this point. "During the winter months," says Mr. Bagot in a recently published work on the lakes, "Locarno possesses a climate superior to the French or Italian Riviera; orange and lemon-trees abound, myrtle and many other semi-tropical shrubs and plants flourish throughout the winter." Locarno is an admirable place in the late autumn, for at this season the weather is sunny here if anywhere and society is to be found in this locality when Bellagio, Menaggio, Baveno, or Stresa present a deserted air. With the close of the autumn, however, the orange-tree, "that busy plant," as George Herbert has described it, is ingeniously housed, and the semi-tropical shrubs receive their winter clothing of heavy matting, the whilom semi-tropical garden disappears, and the illusions of perpetual summer flee away. A large colony of people practising the "Nature Cure" live here. Lake Orta, smaller and rather remotely placed, and Varese, near Como, should also be mentioned.

Briefly, the Italian lakes, amongst other considerations, may be described as the convalescent's paradise. The moderate elevation, the extreme equality of temperature, the freedom from dust and noise, the picturesque surroundings, and the pleasant variation of the scene easily obtained afford conditions admirable for mind and body undergoing restoration. Under this heading one may place the "after-cure" for bathers or Weir-Mitchell patients. Early *poitrinaires* are in some instances benefited, or at least it is believed that they may stay here without harm. Whether hotel life be appropriate in pulmonary tuberculosis is a question which must be left to the consideration of others.

MEDICINE AND THE LAW.

An Illicit Still and an Absurd Story.

THE explanation recently put forward in a prosecution for unlawfully manufacturing spirits and using an illicit still drew from the magistrate at Marlborough-street police court some trenchant observations upon the absurdity of wasting his time with stories that might amuse but could not deceive him. The defendant, a Russian butter and cheese maker, named Jacobovitch, had on his premises a still and about 40 gallons of wash in an active state of fermentation, and explained to the inland revenue officials who discovered them that the wash was a kind of sauce, and that the still was used for cheese-making by passing a hot pipe through the milk. Variants of this story were put forward at the police court and witnesses were called to swear that the defendant's only business consisted in manufacturing cheese or butter. As Mr. Denman observed: "There is no limit to what these people believe to be the gullibility of the magistrates before whom they come." As a matter of fact, in these important prosecutions, which not only defend the rights of the revenue but protect the public from being poisoned with unwholesome spirits, and in those others which seek to prevent the distribution of putrid or adulterated food, there is always some story easy to be invented if only a magistrate can be found to lend an ear to it. It will, for instance, have been observed that a large proportion of the retailers of foodstuffs, who from time to time are prosecuted for offering for sale articles of obviously human diet in an unfit condition, promptly discover that they have bought sacksful of tins of preserved milk or large quantities of putrid fish or meat in order to sell it for feeding pigs or for manuring the ground. These operations are extremely unlikely to be carried out in the manner that the defendant's story suggests, but presumably it satisfies his fighting spirit and he feels that he has not submitted to be fined or imprisoned without a struggle. Mr. Denman professed himself to be amused at the ingenuity of Jacobovitch (who on a previous occasion had been fined £25 for a like offence), but he fined him £125 nevertheless, with the alternative of four months' imprisonment. If the law were only concerned in "making the punishment fit the crime" the better course, and one which perhaps might have been adopted in an Oriental country, would have been to sentence him to imprisonment together with his still and his 40 gallons of wash until he produced a palatable condiment or a few pounds of either cheese or butter by the novel processes of manufacture of which he claimed to be the master.

Street Noises.

A coal hawker and an oilman were recently summoned before Mr. Plowden at the Marylebone police court on account of the noise made by the former in shouting "coal" in a certain street at 11 A.M. and by the latter in calling attention to his wares by ringing a bell. The learned magistrate appears to have had little sympathy with the desire of the complainants, who were the police at a neighbouring section house, to sleep after their nights on duty, for he

only imposed fines of 1*s*. Such noisy nuisances as those complained of are at least as disturbing to those who are awake and are doing their day's work quietly without annoying their neighbours as they are to persons who desire to rest, and it is to be regretted that in a city like London where a certain amount of noise is inevitable wholly unnecessary additions to it should not be more vigorously repressed than they are.

Looking Back.

FROM

THE LANCET, *SATURDAY*, Sept. 12th, 1829.

ADVICE FOR THE PREVENTION OF FEVER IN IRELAND.

To the Editor of THE LANCET.

SIR,—Observing at page 657 of THE LANCET, a few simple and excellent rules recommended at the London Fever Hospital to be adopted to prevent contagion, I take the liberty of enclosing you some rules of a similar nature with which I have lately met, issued a few months since from a fever hospital in Ireland. You will not only render a service in Ireland, where your journal circulates very widely, by republishing them, but you will both amuse and instruct many of your readers in this country, by the insight which this "advice" thus unpremeditatedly affords them, into the degraded state of the lower class of people of that country. We may readily judge what must be the state of health in those neighbourhoods in which it is necessary to advise the people "to scrape their floors with a *spade*, and sweep them every day." Houses without windows and chimneys, floors matted with dung, spades instead of brooms, straw beds, and foulness of all kinds, seem the common characteristics of that unfortunate country. Well might Dr. Stoker, in speaking of its poorer classes in his report, have said that "Their habitations were ruinous, and their apartments (into each of which numbers crowded, in order to lessen expense, by dividing the cost of rent and taxes) became so many laboratories of noxious vapours, sometimes more like the neglected cemetries of the dead, than habitations of the living."

I am, Sir, your obedient servant,

London, Sept. 5. G. I.

"*Advice to prevent Fever.*

"Nisi utile est quod facimus, stulta est Gloria."—*Phædrus.*

No. 1.—Let your doors and windows be kept open in the day; if you have not a window in the back part of your house, make one; have them so hung as to be easily opened; have a chimney with a good draught, so as to encourage a free current of air through your house.

No. 2.—Remove dung and putrid matter of every kind, from before and behind your houses, as the vapour and smell proceeding from them, (called malaria,) have been found by physicians to generate infectious fever.

No. 3.—Scrape your floors with a spade, and sweep them every day; also the yards before and behind your houses as often as you can; keep your hair cut short, and comb it every day; wash your hands and face; keep your clothes, furniture, and utensils sweet and clean.

No. 4.—Don't go into any house where a person is sick, or has been ill of fever; don't attend the wake of any person who has died of fever; if you do you will be infected yourself, and will communicate fever to your family.

No. 5.—Don't let strolling beggars enter your houses, as they frequently carry infection from one house to another.

No. 6.—Whitewash your walls, inside and outside, with lime slacked in the house, and while it continues hot and bubbling; let this be done once a month while fever is prevalent.

No. 7.—If fever attacks your family, as soon as the calamity is removed by recovery, or by death, employ the above means as soon as possible; burn the straw of the bed; put all the clothes of the house in cold water, wring them out and wash them in hot water, soap, and pot-ashes; let every box, drawer, chest, &c., be emptied and washed, and let the floor under the patient's bed be strewed with lime fresh slacked and hot. Let no person upon recovery go into a neighbour's house, nor into any public place of worship, for fourteen days.

No. 8.—REMEMBER!!! that cleanliness and good air will improve your health and strength, will check disease, and UNDER GOD will preserve you from all the variety of wretchedness and misery occasioned by INFECTIOUS FEVER.

Valley House.

NOTE!—Heads of families are strongly recommended to have a printed copy of this advice pasted up in their houses, and to enforce a strict observance of its instructions.

The gentry are advised only to give employment to such persons as carefully attend to the rules therein contained.

A strict adherence to this plan constitutes the sole means for removing the principal cause which generates typhus fever in Ireland, viz. the fetid smell (called "malaria") exhaled from vegetable and other substances in a state of putrid fermentation.

It is reasonable to hope, that every other cause will be eradicated by comfortable clothing, wholesome food, and good lodgings, which comforts can only be obtained through the medium of constant employment given to the poor."

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

The Port of Manchester.—Mr. W. F. Dearden reports that during 1906 powers were obtained for examining imported foodstuffs introduced into the country *viâ* this port, and he furnishes an instructive chart showing the value of food imports entering each of the principal ports compared with the value of total imports from abroad. This chart accentuates not only the enormous proportion of our total imports which is made up of foods but also the great importance of proper control of such imported foods. Powers for the inspection of food imports have been possessed by the Port of London since 1898, but Manchester (the youngest provincial port) has been the first to obtain such powers outside the metropolis. It is interesting to all those who study the problem of our dependence upon outside foodstuffs to learn that during 1905 the value of food introduced into this country through the 13 principal ports more particularly devoted to this trade amounted to £201,722,057 in relation to a sum of £484,320,251 which represents the value of imports of all kinds—i.e., nearly half the money spent by us in imports is for food. As regards the Port of Manchester the actual value of the food introduced *viâ* the Ship Canal has steadily increased from £2,919,825 in 1901 to £5,024,119 in 1905, and all this food is still apparently being admitted without any inspection in the port. The Bill embodying powers for inspection was not inscribed upon the statute book without considerable opposition as it was felt that to place restrictions upon a new and rising port would be undiplomatic as regards the progress of business. It was contended that if the powers in question were to be conferred they should be bestowed on all port sanitary authorities throughout the country. Although these powers have now been obtained as regards Manchester they have not as yet been actively enforced pending the passage through Parliament of general measures conferring similar powers upon all port sanitary authorities throughout the kingdom. We find here, in fact, a further illustration of the value of local Acts in promoting general legislation on the same lines.

Dartford Rural District.—Dr. Sylvester Richmond, as medical officer of health of a rural district in which fruit-growing abounds, finds himself face to face with the two difficult and annoying problems of the control of a low-class nomadic population visiting the district for short periods in the summer and with the conveyance and storage of manure. Everyone familiar with rural districts around London will sympathise with him in his troubles, more especially as he appears to have added to them, especially at Greenhithe, a growing smoke nuisance from cement burning. Apparently the fruit-picking cannot be carried out by the local population, partly because it is too small and partly because the wage which the inhabitants demand is too high to render the industry remunerative; hence this alien trouble. The main nuisance has occurred at Swanley Junction, but here Dr. Richmond has at last succeeded in procuring a sewer to

drain the fruit-pickers' huts. The subject of infantile mortality in this district has been gone into very thoroughly by the medical officer of health during the past year, more especially as regards the eight years during which he has been in office. In this way he has been able to procure averages having a much higher value than the rates for one year would possess. The average infantile mortality for the eight years in question was 132 per 1000 births, the legitimate rate being 124 and the illegitimate 404; while one of the special tables constructed by Dr. Richmond shows that 19 per cent. of the deaths occur under the age of one week, 31 per cent. under one month, and one-half under three months, the remainder being fairly evenly distributed over the remaining months. Of the total deaths under one year of age 37·5 per cent. were due to wasting diseases and 23 per cent. to diarrhœal diseases; while of the total deaths under one month no less than 74·2 per cent. were due to wasting diseases. This group of wasting diseases may be divided into two sub-groups, premature birth and atrophy, and of those due to premature birth 60·5 per cent. of the whole occur immediately on birth or within the first week. Dr. Richmond thinks that the medical officer of health can do very little to check mortality under this head. As regards, however, the second sub-group—i.e., atrophy and like causes—there are many which occur in the first week which are probably due to pre-natal causes. These deaths diminish for the next three weeks but increase in the second and third months, and at this time the causes are post-natal and preventable—i.e., due to neglect, artificial feeding, and insanitary surroundings. By way of curtailing the death-roll under this head Dr. Richmond proposes the appointment of lady visitors who should visit and instruct the mothers as to the proper methods of feeding their children and who should report to the sanitary officials any defects in the sanitary condition of the houses. We much hope that this suggestion will be acted upon, and there is no reason why visitors of this description should be appointed in urban districts only. We should be glad, too, to see this subject of infantile mortality analysed as carefully in other rural districts as in the Dartford district, and it is gratifying to find a rural medical officer of health gratuitously going beyond the already very complicated tables which he is bound to fill up.

County Borough of Bournemouth.—Mr. P. W. G. Nunn, the medical officer of health of this important health resort, condemns in his current annual report the belief that pulmonary tuberculosis possesses the high degree of infectivity with which it is credited by some persons. His experience at Bournemouth during 36 years has not tended in this direction and in his view had the disease possessed this attribute the low death-rate attained by Bournemouth would not have been achieved. Certainly the evidence of Bournemouth, with its numerous institutions for pulmonary tuberculosis, should be of value, and we wish that Mr. Nunn had entered a little more into detail upon his subject. There is, however, much evidence from other places pointing to the conclusion that the presence of sanatoriums and hospitals for consumption exercises no prejudicial influence upon the death-rate from this disease; indeed, in the majority of such places such death-rate has steadily declined. The borough analyst, whose report is bound up with that of the medical officer of health, reports that one sample of milk contained no less than 35 grains of boric acid to the pint, a somewhat drastic dose to administer to invalids or children without their consent or knowledge. We are glad, therefore, to see that the town council has decided to take action in all cases where 40 grains to the gallon of boric acid and formalin to an amount exceeding one part in 40,000 are detected.

Reigate Rural District.—Provisional arrangements have apparently been made between the medical officer to the education committee of the Surrey county council and the local medical officers of health by means of which a closer supervision over the health of the scholars may be maintained than heretofore. The school teachers are now required to notify to the local medical officer of health whenever a child is absent from school owing to any infectious or contagious malady or when there is even a suspicion of such an occurrence. The medical officers of health are, too, expected to visit each school at least once a year and to examine into its sanitary conditions. The examinations made in this sense in 1906 by Dr. Arthur E. Porter seem to indicate that in several instances the local schools ought not to be used as such. We read of "sanitary conveniences badly situated," "no water-supply to urinal," "very poor cloakroom accommodation," "not a suitable building for a school," and "quite unfit for a school." If these statements are not out of proportion they should receive the immediate attention of the education authority.

County Borough of Salford.—Mr. C. H. Tattersall's current volume embodies a report by Dr. J. J. Butterworth, the deputy medical officer of health and assistant medical officer to the education committee, upon the medical inspection of schools. The routine practice appears to be to visit the schools regularly and to inspect the children rapidly. All those suffering from physical or mental defects are noted. If as a result of further examination of these selected children it is found that medical treatment is desirable, apart from some modification of school attendance, the parents are advised either to consult a private practitioner or to attend at hospital with the child. In addition to this method of determining defective children it is within the province of the school attendance officers to refer children to the medical inspector. The physical instruction sub-committee undertook in 1904 to have the measurements of boys taken in six elementary schools and some useful data, not in a form which can be conveniently epitomised, will be found in Mr. Tattersall's report. It may, however, be stated generally that the results as regards height were below the Edinburgh and Glasgow data, below the Anthropometric Committee average standard, and markedly below the public schools standard. Very similar observations obtain as regards weight. Apparently the Salford education authority supplies spectacles at a low and uniform price to children requiring them.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 7980 births and 3785 deaths were registered during the week ending Sept. 7th. The annual rate of mortality in these towns, which had been equal to 11·5 and 11·8 per 1000 in the two previous weeks, further rose last week to 12·3 per 1000 During the first ten weeks of the current quarter the death-rate in these towns has averaged 12·0 per 1000, the rate in London during the same period being 11·9 per 1000. The lowest death-rates in the 76 towns last week were 3·1 in Wallasey, 5·4 in Walthamstow, 5·7 in East Ham, and 7·0 in Hornsey; the highest rates were 17·0 in Nottingham and in Liverpool, 17·2 in Tynemouth, 17·6 in Newcastle-on-Tyne, and 19·7 in Stockton-on-Tees. The 3785 deaths in the 76 towns last week exceeded by 168 the number in the previous week, and included 471 which were referred to the principal epidemic diseases, against 407, 432, and 437 in the three preceding weeks; of these, 229 resulted from diarrhœa, 80 from whooping-cough, 71 from measles, 39 from diphtheria, 34 from scarlet fever, and 18 from "fever" (principally enteric), but not any from small-pox. No death from any of these epidemic diseases was registered last week in Willesden, Plymouth, South Shields, Huddersfield, Hornsey, Rochdale, or in six other of the 76 towns; the death-rates from these diseases, however, ranged upwards to 3·6 in Cardiff, 3·8 in Aston Manor and in Sheffield, 3·9 in Bootle, and 4·9 in Walsall. The fatal cases of diarrhœa, which had risen from 39 to 194 in the eight preceding weeks, further increased to 229 in the week under notice, and caused death-rates ranging upwards to 2·2 in Walsall, 2·5 in Rotherham, 2·9 in Sheffield, and 3·1 in Bootle. The deaths from whooping-cough, which had been 99 and 76 in the two previous weeks, rose again to 80 last week; the highest death-rates from this disease were 1·3 in Aston Manor and 1·4 in West Hartlepool. The fatal cases of measles, which had been 102. 84, and 73 in the three preceding weeks, further declined to 71 in the week under notice; the mortality from this disease was equal to 1·2 per 1000 in Blackburn, 1·4 in Merthyr Tydfil, 2·2 in Walsall, and 3·3 in Cardiff. The deaths from diphtheria slightly exceeded the number in the previous week, while those from scarlet fever and from "fever" showed a slight decline; the mortality from these diseases was not excessive in any of the 76 towns. The number of scarlet fever patients under treatment in the Metropolitan Asylums hospitals and the London Fever Hospital on Sept. 7th was 3816, the numbers having risen successively in the 17 preceding weeks from 2658 to 3738; 587 new cases were admitted during the week, against 430, 440, and 557 in the three preceding weeks. The deaths in London referred to pneumonia and other diseases of the respiratory system, which

had been 97 and 129 in the two previous weeks, declined again to 116 in the week under notice, and were 17 below the number in the corresponding period of the five years 1902-06. The causes of 43, or 1·1 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in London, Leeds, West Ham, Bradford, Newcastle-on-Tyne, Hull, and in 48 other of the 76 towns; there were six uncertified deaths in Liverpool, five in Birmingham, three in Salford and in Reading, and two each in Manchester, Bristol, Sheffield, South Shields, Gateshead, Preston, St. Helens, and Bootle.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 12·6, 12·8, and 13·7 per 1000 in the three preceding weeks, was 13·6 per 1000 in the week ending Sept. 7th, and exceeded by 1·3 per 1000 the rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 10·5 in Perth and 10·6 in Leith to 14·2 in Dundee and 14·8 in Glasgow. The 471 deaths in these towns were slightly fewer than the number in the preceding week, and included 58 which were referred to the principal epidemic diseases, against 65 and 62 in the two preceding weeks. These 58 deaths were equal to an annual rate of 1·7 per 1000, which exceeded by 0·2 per 1000 the mean rate during the same period from the principal epidemic diseases in the 76 large English towns; they included 22 which were referred to whooping-cough, 22 to diarrhœa, 11 to "fever," and one each to measles, to scarlet fever, and to diphtheria. The fatal cases of whooping-cough, which had been 22 and 19 in the two preceding weeks, rose again to 22 last week, and included ten in Glasgow, five in Edinburgh, and five in Aberdeen. The deaths from diarrhœa, which had been 21 and 15 in the two preceding weeks, increased again last week to 22, of which 15 occurred in Glasgow, five in Aberdeen, and two in Dundee. The fatal cases of "fever," which had been seven and 19 in the two preceding weeks, declined again to 11 last week, and included 10 in Glasgow and one in Edinburgh; of these eight were attributed to cerebro-spinal meningitis in Glasgow, and one in Edinburgh. The deaths in the eight towns referred to diseases of the respiratory organs, including pneumonia, which had been 48, 53, and 51 in the three preceding weeks, rose to 57 in the week under notice, and exceeded by seven the number in the corresponding period of last year. The causes of 21, or 4·4 per cent., of the deaths in these eight towns last week were not certified or not stated; in the 76 English towns the proportion of uncertified deaths did not exceed 1·1 per cent.

HEALTH OF DUBLIN.

The annual rate of mortality in Dublin, which had been equal to 15·7 and 18·6 per 1000 in the two preceding weeks, further rose to 20·7 per 1000 in the week ending Sept. 7th. During the first ten weeks of the current quarter the death-rate has averaged 18·9 per 1000, the rates during the same period being only 11·9 in London and 12·3 in Edinburgh. The 155 deaths of Dublin residents registered during the week under notice were 16 in excess of the number in the previous week, and included 12 which were referred to the principal epidemic diseases, against 14 and 17 in the two preceding weeks; they included five from diarrhœa, three from measles, two from whooping-cough, one from scarlet fever, and one from "fever," but not any from small-pox or from diphtheria. These 12 deaths were equal to an annual rate of 1·6 per 1000, the death-rate from the principal epidemic diseases during the same period being 1·5 in London and 1·1 in Edinburgh. The fatal cases of diarrhœa, which had been six, four, and eight in the three preceding weeks, declined again last week to five, while the deaths from measles decreased to three, having been two and seven in the two previous weeks. The 155 deaths from all causes in Dublin last week included 29 of children under one year of age and 50 of persons aged upwards of 60 years, these numbers being respectively five and 19 in excess of the corresponding figures for the previous week. Four inquest cases and three deaths from violence were registered, and 61, or 39·4 per cent., of the deaths occurred in public institutions. The causes of seven, or 4·5 per cent., of the deaths in Dublin last week were not certified; in London all the deaths were duly certified, while in Edinburgh the proportion of uncertified deaths was 5·8 per cent. The 105 deaths in Belfast included five which were referred to cerebro-spinal fever or cerebro-spinal meningitis.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet-Surgeons: J. A. Keogh to the *President*, for three months' course at West London Hospital; E. Sutton to the *Kent*, on recommissioning; and O. W. Andrews to the *President*, additional, for International Congress of Hygiene and Demography at Berlin. Surgeons: S. S. H. Shannon to the *Arrogant*, on recommissioning; J. E. Johnston to the *Pembroke* for Royal Naval Barracks; F. E. Bolton to the *Kinsha*, R. Kennedy to the *Glory*, and E. Cox to Chatham Hospital; A. H. S. Richardson to the *Amphitrite*, and to the *Kent*, on recommissioning; and R. Thompson to the *Cambridge*.

ROYAL ARMY MEDICAL CORPS.

Major Alfred L. Borradaile retires on retired pay (dated Sept. 7th, 1907). Lieutenant-Colonel W. L. Reade and Major A. C. Stone have been permitted to exchange appointments by the Army Council.

INDIAN MEDICAL SERVICE.

The following Lieutenant Colonels retire from the service:—Charles Lethbridge Swaine (dated July 23rd, 1907), Nityananda Chatterjie (dated June 18th, 1907), Alexander Vass Anderson (dated July 19th, 1907), and Herbert Mackinlay Morris (dated May 14th, 1907).

IMPERIAL YEOMANRY.

Scottish Horse: Surgeon-Lieutenant J. A. Taylor to be Surgeon-Captain (dated August 1st, 1907).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Forfarshire: Surgeon-Captain G. Halley to be Surgeon-Major (dated July 29th, 1907).

Rifle: 2nd Volunteer Battalion the Royal Warwickshire Regiment: Arthur James Arch (late Lieutenant, R.A.M.C.) to be Second Lieutenant (dated July 20th, 1907). 1st Volunteer Battalion the Duke of Cornwall's Light Infantry: Prosper James Liston to be Surgeon-Lieutenant (dated August 12th, 1907). 1st Volunteer Battalion the King's Own (Yorkshire Light Infantry): Supernumerary Surgeon-Major E. Lee (Brigade-Surgeon Lieutenant-Colonel, Senior Medical Officer, Humber Volunteer Infantry Brigade), to be Surgeon Lieutenant-Colonel, remaining seconded (dated July 18th, 1903). 1st Volunteer Battalion the Duke of Cambridge's Own (Middlesex Regiment): Surgeon-Lieutenant H. W. Spaight resigns his commission (dated August 1st, 1907).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

Eastern Command: Woolwich Companies: Lieutenant A. E. Jerman to be Captain (dated August 6th, 1907). London District: London Companies: Allan Chilcott Parsons to be Lieutenant (dated Sept. 1st, 1907). Argyll and Sutherland Bearer Company: Captain J. A. Boyd resigns his commission (dated August 12th, 1907). East Surrey Bearer Company: Captain (Surgeon-Major, Army Medical Reserve of Officers, Honorary Captain in the Army) E. W. St. V. Ryan resigns his commission (dated July 17th, 1907).

The Woolwich Companies, numbering 13 officers and 392 non-commissioned officers and men under the command of Lieutenant-Colonel C. H. Hartt, completed their 14 days' training at Netley on August 17th. They were encamped in a field in the rear of the hospital. On August 9th they were inspected by Surgeon-General R. H. Quill, Principal Medical Officer, Royal Victoria Hospital. Besides being engaged in field exercises 30 of the men were drafted each day into the wards of the hospital to learn the special duties connected with nursing.

DEATHS IN THE SERVICES.

Lieutenant-Colonel Herbert Jekyl Dyson, I.M.S., in Calcutta, on Sept. 3rd. He obtained his medical qualifications in 1882, entered the service as surgeon in April, 1885, and was promoted to be lieutenant-colonel in April, 1905. He served with the Burmese Expedition in 1885–88 and received the medal with two clasps. He also held the position of civil surgeon at Jessore.

Correspondence.

"Audi alteram partem."

SHIPS' SURGEONS AND MEDICAL EQUIPMENT.

To the Editors of THE LANCET.

SIRS,—Having just performed a voyage as surgeon on a passenger boat trading from Australia to England and formed a few impressions as to the medical side of things and the provision made for sickness in the way of drugs, &c., I have thought I might set these down with some profit.

Before sailing I took the trouble to run down and see what drugs and instruments there were, and I found that things according to Board of Trade regulations were supplied and that departure from the strict letter of these was not encouraged. Instruments were well provided, but there was only one artery forceps among the whole outfit. I requisitioned for two or three more but found after sailing these were not got, on the ground that the Board of Trade regulations did not require more than one. There were about 170 souls on board and the voyage would take at least seven weeks. As a matter of fact, it took about eight weeks. It can be easily seen that in the admitted possibility of a serious accident involving the severance of several arteries one useful pair of forceps was but a poor stand-by to fall back on.

The choice of drugs was of a very peculiar character. There was no nux vomica, sulphate of soda, ammonium chloride, or any one of the infusions provided. Nor was there any adequate provision of gauze. Carbolic acid and a little perchloride solution was the only antiseptic provided, unless one would call boric acid such. There was no picric acid for burns.

Now all this was specially noticeable in view of the fact that as to catering for the feeding, as to comfort, and as to attendance upon the passengers the ship was exceedingly well found. Clearly there seemed an inability to recognise the necessity of so providing that the important duty of the surgeon should be efficiently carried out. His place in the scheme of things seems not yet definitely settled. He is apparently as yet but an accretion, an accident, and hence there is an inability to gauge the place in the scale that he and his duties hold. He himself is treated with courtesy and consideration and his representations are received with respect, but any definite action is avoided by an attitude of *non possumus*. The dispensary had no seat or bench, and it was only the courtesy and good sense of the commander that provided such after the voyage had begun. Now it would be unreasonable in the extreme to expect the comfort of a surgery or the completeness of provision of a hospital dispensary, but ought not a little more latitude to be allowed the doctor so as to give him every encouragement to perform his duties with pleasure and satisfaction to himself and his patients, who need just as much sympathy and care at sea as on shore?

It might be objected that really so very little sickness occurs on board that it would be foolish to go to any great expense and make elaborate provision for contingencies that could only arise on the rarest occasions. In answer to this let me give an inadequate list of what I had to deal with on the voyage: orchitis and epididymitis, an old fracture of metatarsal bone with severe strain and adhesions, a case of alcoholism, two axillary abscesses and one inguinal abscess, one case of chancre, two of cystitis, one of renal calculus, one case suggestive of renal calculus, obscure case in many respects; one of prostatic enlargement, two of varicella, one of pertussis, one of acute laryngitis with adenoids as an aggravation, very severe; two burns, several injuries of shins leading to ulcers, two cases of liver derangement with gastric complications, one phthisis pulmonalis, far advanced; several cases of lumbago, bronchial catarrh, and pharyngitis (three). Then there were sundry cases of catarrh, indigestion, and, of course, the large number of constipation cases we all expect among firemen and others. I submit this is a formidable list for a few weeks and I allow it is exceptional. But no chain is stronger than its weakest link, and on starting no one ever thought such a deal of sickness would occur. But pity the doctor who is called upon to meet the situation. Certainly nothing *very* serious resulted, but it might have in other circumstances. Some drugs were run out of on the voyage and I desired to get them replaced. But then I found that the company objected to any drugs being bought at any other ports than London and it was there down in their regulations for the guidance of the surgeon. But the captain got them all the same. But how is a man to get satisfactorily through his work, small and unimportant as it may be, if he is hampered by considerations such as these?

There is one more point I must draw attention to. Is it comportable with the dignity and efficiency of the work of the doctor that his dispensary should be next to a urinal and his cabin and the dispensary both be in a dark alleyway which it was impossible to keep clean or properly lighted? This alleyway constituted the one means of access for the crew to go to their quarters, for the stores to be carried backwards and forwards, and for the provisions to be conveyed to the crew and the steerage passengers, and for all and sundry to go to the bar. The traffic along it was thus very great and at times it was impassable. To crown all, its width was about four feet. Now surely it is time such a state of things was rectified. Of course we must keep in view that the doctor and his dispensary are accessible to every class of passenger at all times. But this applies just as much to saloon passengers as to others, and to invite such to pass through dirty and dark alleyways where they must brush against coal dust and step through slops is a blunder as well as a crime. Structurally, surely, in this day of marine architecture *in excelsis* there can be no insuperable difficulty in so placing cabin and dispensary so that they can be accessible in unexceptionable neighbourhoods and with approaches that can be kept both clean and dry?

Now, finally, is it not time that Board of Trade lists of drugs should be revised? When were these schedules last overhauled and corrected? It seems only right that they should be so drawn up as not to allow any latitude to such shipping companies as are not above playing fast and loose with them in their pursuit of a cheese-paring policy to make them really a means of hampering their medical officer. Of course, it is ever the effect, in these ingenious days, of any prescriptive legislation to have a restrictive result, because while it says what must be taken it is ever open to any one to say that nothing outside its provisions shall be taken. Both the character of drugs and their quantities ought to be more or less at the option and direction of the surgeon, inasmuch as every medical man has certain drugs with which he works and has confidence in. As a matter of fact these positions are more or less filled by recently qualified men who have not yet had occasion to have their special fancies and dependencies. But even such in their hospital work will have a choice dictated by experience. I have deliberately refrained from specifying the ship and company that have given me my text, because I am clear that the conditions here are more or less prevalent in all lines but the *very best*. As to them I have no experience, so cannot say. But I have frequently travelled on other lines, and can assert that the conditions described above are the best I have met with.

Trusting that you will consider this matter of sufficient importance to justify insertion,

I am, Sirs, yours faithfully,

Sydney, N.S. Wales. G. A. VAN SOMEREN, M.D. Edin.

RHEUMATOID ARTHRITIS.

To the Editors of THE LANCET.

SIRS,—In common with others I read with much interest your annotation entitled "Rheumatoid Arthritis" which appeared in THE LANCET of Sept. 7th, p. 725. In considering the trend of the discussion on this subject at the recent annual meeting you draw attention to the almost complete absence of any allusion to the neural theory of the origin of the disease, and this notwithstanding the fact that some authorities like Spender, Latham, and others, still hold it to be the correct view. This silence on the subject of the neural theory as opposed to the infective would seem to carry with it the inference either that the neural theory has been thoroughly weighed, found wanting, and no longer merits serious attention, or that there is something inherently antagonistic in the two theories which precludes anything of the nature of a compromise between their respective advocates.

The truth of the matter, it seems to me, is that neither of

the opposing claimants is in a position to disdain the aid afforded it by the other in unravelling the complex clinical phenomena grouped under that vague, ill-defined term rheumatoid arthritis. For while, on the one hand, it cannot be gainsaid that many of the clinical features strongly savour of an infective process as, for example, the acute mode of onset of some cases, the lymphatic and occasional splenic enlargement, still, it must not be forgotten that even in cases presenting the above features there may be in addition widespread muscular atrophy, increased deep reflexes, symmetrical involvement of joints, and trophic changes.

Now such features as these latter strongly point to some implication of the nerve centres, and in order to make the infective theory fit all the facts of the case we have to explain them by assuming them to be the result of changes in the central nervous system consequent upon absorption of toxins. We thus see that in many cases it is impossible to dissociate the two theories, for, as a matter of fact, the manifold clinical phenomena of rheumatoid arthritis are best explained by a blend of the two views; and some years ago I endeavoured to explain this complex disorder on the basis of a chronic spinal toxæmia. Another advantage to be obtained by blending and not opposing the two views is that it leads us to take a more comprehensive view of the disease as a whole, for otherwise there is a distinct danger of our falling into the pitfall, stumbled into by so many, of regarding rheumatoid arthritis as a disease of joints and joints only, whereas, I take it, it is a disease of joints plus certain collateral phenomena, as, for example, muscular atrophy, sensory, vaso-motor, and trophic changes—in other words, the very phenomena which give to rheumatoid arthritis its characteristic clinical facies as opposed to all other joint affections.

When brought in contact with a series of rheumatoid patients we note that while they all present joint swellings of the same character they each may show important differences when looked at as a whole—i.e., muscular atrophy, intense and widespread, may obtain in the one; in another muscular atrophy may be slight but it may be characterised by vaso-motor phenomena indistinguishable clinically from Raynaud's disease. In yet another the predominant accessory features may be sensory, as evidenced by severe neuralgic pains and in some long-standing cases definite anæsthesia, and there may be areas of glossy skin, pigmentation, and in very rare cases perforating ulcers. The importance of a thorough all-round examination in all cases of rheumatoid arthritis is obvious, for it is just to these collateral phenomena that we look for a clue as to the nature of the joint trouble. Furthermore, I believe that these accessory features will eventually aid us considerably in establishing a sound clinical classification of the various forms. We are all aware how urgent is the need for an adequate classification of the joint diseases grouped under the term rheumatoid arthritis, and here again we might take a lesson from the way in which the arthropathies are classified. The neurologists do not content themselves with a classification based upon the mere anatomical distribution of the lesions, monarticular, polyarticular, and so forth. Nay, on the other hand, they classify them as tabetic, syringomyelic, &c. In other words, they look at their cases as a whole, and I cannot help thinking that if we approached the study of our rheumatoid patients in the same methodical manner, we should be able to evolve some classification more scientific than one based on the mere anatomical distribution of the lesions.

In support of my contention that the neural theory is still worthy of attention I would draw attention to an article [1] by Dr. F. W. Mott and Mr. A. F. Tredgold. It is entitled "Some Observations on Primary Degeneration of the Motor Tract." In it are discussed, both from a clinical and a pathological point of view, two cases of amyotrophic lateral sclerosis, one of progressive muscular atrophy, and a case of chronic rheumatoid arthritis with muscular atrophy. The microscopical examination of the cord of the last-named revealed "in the spinal cord chronic atrophy with excessive pigmentation of anterior horn cells in cervical and lumbar enlargements, all groups affected (especially the mesial anterior). Decrease in fibrillary network. General slight interstitial overgrowth throughout the cord, with arterio-capillary fibrosis, but no tract degeneration, slight chronic changes in cells of posterior ganglia, atrophy of peripheral nerve fibres, atrophy and fatty degeneration of muscles." It is only fair to add that the authors, after commenting on the remarkable similarity of the microscopical appearances in the cord sections of all four cases, felt themselves unable to say "whether the change in the anterior horn cells is primary or secondary to the joint change, or to give any satisfactory explanation of this difference, we simply record the fact."

In conclusion, I should like to add my testimony to the very great value of counter-irritation of the spine in rheumatoid arthritis. I have had the opportunity of seeing one of Dr. W. J. Midelton's cases both before and after treatment by Dr. Latham's method had been adopted and I can truthfully state that the results more than justified his strenuous advocacy of the method. Apologising for the length of my communication,

I am, Sirs, yours faithfully,

Bath, Sept. 11th, 1907. R. LLEWELYN JONES, M.B. Lond.

[1] Some Observations on Primary Degeneration of the Motor Tract, Brain, Part IV., 1902.

BODILY POSTURE AND CARDIAC PHYSICAL SIGNS.

To the Editors of THE LANCET.

SIRS,—The paper upon the above subject which appears in THE LANCET of August 10th, p. 353, from the pen of Dr. William Gordon raises many interesting points and rightly accentuates the importance of examining the heart both in the horizontal and the vertical postures of the body. With most of Dr. Gordon's conclusions I fully agree, but would differ with him upon several small points. The effect of posture upon cardiac dulness is usually very marked, this dulness becoming narrower and higher in the recumbent than in the vertical postures. This change seems to be due to the fact that in the vertical posture the heart gravitates downwards and forwards, while in the horizontal posture it tends to gravitate away from the sternum. Dr. Gordon would urge that when this change is greater than usual and the patient shows little or no cardiac dulness when horizontal, it is a sign of some value of cancer, but although this is present in cancer it is also so in *any* case of rapid emaciation, more especially when this occurs in young people. This point has been worked out by several German observers.

It is quite beyond cavil that most systolic cardiac murmurs, especially those due to "functional disturbance," are more distinct or even only present when the patient is recumbent. I have amply confirmed Dr. Gordon's observation that the antero-posterior diameter of the chest is usually less in the recumbent than in the vertical postures but must demur when Dr. Gordon explains such increase in murmurs in the recumbent posture by saying that then "the stethoscope is relatively much nearer the pulmonary valves, relatively a good deal nearer the aortic valves, and relatively somewhat nearer the tricuspid and mitral valves." Dr. S. Cummings and I showed last year [1] that in the horizontal posture the heart tends to gravitate away from the sternum and Roentgen ray photographs taken from the side show then an increased space between the heart and the anterior chest wall. Hence one can argue that during auscultation of the heart with the patient recumbent the cardiac orifices are further away from the stethoscope than they are when such examination is conducted with the patient vertical. Moreover, it is evident to any observer that the normal heart sounds tend to be more audible when the individual examined is vertical than when he is recumbent; in fact, occasionally in thick-chested emphysematous people the heart may *only* be heard when the chest is vertical or, better still, leaning forward.

While quite admitting that the normal heart sounds are qualitatively changed by posture, the first being sharper and the second duller in the erect posture than in the horizontal, it seems to me that by far the most evident change in the sounds is that they are both more audible in the vertical than in the recumbent position. And this is only what one would expect if the contention is correct that in the erect posture the heart is nearer to the stethoscope. Why systolic murmurs should be more evident in the horizontal than in the upright posture is a different question and I agree with part of Dr. Gordon's explanation of the phenomenon when he argues that "it is due to the action of

[1] Brit. Med. Jour., vol. ii., 1906, p. 1028.

gravity on the intra-cardiac currents." Nevertheless, occasionally one meets with a case where, owing probably to thickened chest wall and emphysema, no heart sounds are audible during recumbency, and yet when such a patient leans forward the heart can be heard and any murmur present *then only* becomes audible. I would conclude by expressing my appreciation of the value of Dr. Gordon's communication and fully agree with him that "no description of the cardiac physical signs can be regarded as complete which does not include a statement of the position of the patient at the time of observation."

I am, Sirs, yours faithfully,

Toronto, August 26th, 1907. R. D. RUDOLF.

THE DISCOVERER OF ETHER ANÆSTHESIA.

To the Editors of THE LANCET.

SIRS,—It may interest your readers to know that at last active steps are being taken to honour the memory of Dr. C. W. Long of Jefferson, Georgia, the discoverer of ether anæsthesia. The Commonwealth of Georgia having passed the Act authorising his statue to be placed in the statuary hall, Washington, D.C., the necessary steps are being taken to have a suitable statue in position without any unnecessary delay. A marble statue 40 feet high will be erected to his memory in Jefferson. The unveiling ceremony is to be performed by the President, for the time being, of the Georgia Medical Association, and is fixed for April, 1909. A suitable memorial building bearing a bronze tablet will be erected at Athens, Georgia, on the site of Dr. Long's residence. The tablet will be inscribed with the date of Dr. Long's first operation and tell of his arduous and beneficent work in Athens. It is pleasant to think that all concerned in the discovery of anæsthesia were Britons: Humphry Davy, C. W. Long, and J. Y. Simpson. Dr. Long, as your readers doubtless know, was of Irish descent, his grandfather having emigrated from Letterkenny, Co. Donegal. I am, Sirs, yours faithfully,

Cavendish-row, Dublin, Sept. 7th, 1907. GEORGE FOY.

PICROTOXIN AS A PREVENTIVE OF POST-CHLOROFORM SICKNESS.

To the Editors of THE LANCET.

SIRS,—The administration of an anæsthetic is sometimes followed by sickness of so persistent and depressing a character that the patient suffers more from the effects of the anæsthetic than from the operation itself, while after major operations the subsequent vomiting may still further weaken the patient and increase the gravity of his condition. This is especially the case in abdominal operations where, in addition, the violent muscular contractions throw a severe strain on the stitches which close the wound. Any method of treatment, therefore, which prevents or even diminishes sickness is of some importance and in this short letter I wish to draw attention to the value of picrotoxin in this connexion.

The great majority of my operations are performed under chloroform or C.E. mixture, consequently my observations have been limited almost entirely to the action of the alkaloid after the use of these narcotics. To obtain the full effect of picrotoxin in the prevention of post-chloroform sickness it must be administered as soon as possible after the anæsthetic has been withdrawn and this circumstance makes it somewhat difficult to determine its true value, because many patients are never sick after an anæsthetic and as these cannot be recognised beforehand the drug is necessarily given to such as well as to those who do suffer from this form of sickness. However, by comparing a series of cases in which it has not been given with a series in which it has a marked difference can be noticed. This difference is specially emphasised in those cases in which, an anæsthetic having been administered several times, the only occasion violent vomiting was absent was when picrotoxin had been given. I have had several patients in the latter class who suffered from severe vomiting for many hours after anæsthesia, and in whom at some subsequent operation, when picrotoxin had been injected, sickness was either absent or lasted only a few minutes. I employ for the purpose a 0·2 per cent. solution of the alkaloid in sterilised water. In adults 20 minims of this are injected into the subcutaneous tissues as soon as possible after the withdrawal of the anæsthetic and certainly at the very latest before the patient leaves the table. The dose for children varies with the age, five minims being sufficient for a child four years old. The introduction of this alkaloid is not an absolute specific against post-chloroform vomiting, but undoubtedly the great majority of patients are entirely free from sickness after its use. If, as rarely happens, sickness should appear and last as long as ten minutes, a second injection, half the quantity of the first, is introduced, and in not a single case has this failed to produce the desired effect.

Occasionally patients are sick before they leave the operating table even after an injection, but in these the drug has not had time to exert its influence. By the time they are placed in bed vomiting has ceased. So firmly am I convinced of the value of picrotoxin in this class of sickness that it is now administered as a routine to my chloroform cases. I am, Sirs, yours faithfully,

Glasgow, August 26th, 1907. PETER PATERSON.

BUTTERMILK IN ENTERIC DISEASE.

To the Editors of THE LANCET.

SIRS,—Major K. B. Barnett, R.A.M.C., in his letter in your issue of Sept. 7th on the subject of buttermilk in the treatment of enteric trouble, and especially in the diarrhœa of young children, commences his prescription with the formula, "Fresh buttermilk is slowly boiled," and so on. This rather suggests the problem offered by Mrs. Glasse's preamble to her well-known recipe for jugged hare, "First catch your hare." I fancy that most people who have not the felicity of living in Ireland, where buttermilk is a drug, or in the Argentine, where it may also be readily available, will want to know how or where they are to obtain "fresh buttermilk." Of course, buttermilk can be obtained from any dairy where butter is made; but, irrespective of other difficulties and disadvantages in doing so, by the time it got into the hands of those who wanted to use it, it might be anything but "fresh" and be likely to excite the trouble it was intended to allay. Moreover, buttermilk has the objection that, to perpetrate a Hibernianism, it is not buttermilk at all. For it is not milk and it contains practically no butter. So far as it can be called milk at all it is milk without its butterfat, of which it has been deprived in the process of churning. This is a serious disadvantage, as butterfat is not only the most valuable constituent of milk from an economic point of view but also on nutritive and digestive grounds, especially for young children.

If any of your readers who are interested in the subject on which Major Barnett writes will communicate with the Severn Valley Dairy Products Company at Stonehouse, Gloucestershire, they may obtain a sample of an article which I venture to think they will find much more suitable for the purpose of infant feeding under the conditions referred to by Major Barnett, as well as in the treatment of enteric fever and diarrhœa generally, than buttermilk. It is called "Casona cream" and is really a liquid form of cheese, specially selected and prepared for the purpose, which contains not only all the casein of milk in a most digestible form but also all the butterfat. Indeed, it can be prepared with an extra proportion of butterfat if desired. The only constituent of milk of which it is almost wholly deprived is the milk sugar. But this is so easily supplied in other ways that its omission is of no practical importance.

I am, Sirs, yours faithfully,

Gloucester, Sept. 8th, 1907. FRANCIS T. BOND, M.D. Lond.

ETHER INHALATION IN PULMONARY TUBERCULOSIS.

To the Editors of THE LANCET.

SIRS,—To those interested in the treatment of phthisis I would submit for consideration the feasibility of attempting to arrest the disease by subjecting the patient to a course of ether anæsthesia. For instance, let the patient be put as fully as safety will permit under the anæsthetic for half-an-hour for three consecutive days, after which at intervals of two or three days let the process be repeated. If the theory be sound, within a fortnight unquestionable evidence should

be found of improvement. Of course, it would be necessary to administer the anæsthetic with the utmost care, bearing in mind the nature of the disease. Abdominal section has frequently been credited with temporary arrest of tuberculosis of that cavity. May not ether be the chief factor in the temporary arrest? I am, Sirs, yours faithfully,

Sept. 5th, 1907. ROBT. HUGH HODGSON.

THE SEASONS AND MENTAL DISORDERS.

To the Editors of THE LANCET.

SIRS,—The incidence of mental disorders does not correspond in point of time with recorded admissions into asylums, especially private asylums. It is true that the summer months, as indicated by Dr. J. Adam, bring special anxieties and maximum work, for suicides are most common in July and least common in November; but the inception of these disorders must be referred to the spring months, as I have shown in the Morison lectures of this year. It is undoubtedly in the study of the prodromal period and the onset of insanity that modern methods of treatment must find their bases and most hopeful development.

I am, Sirs, yours faithfully,

Perth, Sept. 7th, 1907. A. R. URQUHART.

TUBERCULOSIS IN SPAIN.

To the Editors of THE LANCET.

SIRS,—I am informed that after a fatal case of bacillary phthisis it is the national custom in Spain to disinfect and redecorate the room in which the fatal case occurred. Can you, or any reader of THE LANCET, inform me if this is a fact? I am, Sirs, yours faithfully,

Cornwall Sept 2nd, 1907. C. E. ABBOTT, M.R.C.S. Eng.

*** It is a fact that tuberculosis is regarded in Spain as very infectious. It is difficult to let a house or rooms in which a patient has died from this disease. Moreover, the furniture is generally destroyed after the death.—ED. L.

THE GUILD OF ST. LUKE.

To the Editors of THE LANCET.

SIRS,—May I draw attention to the advertisement appearing in the present issue of THE LANCET respecting the annual festival service of the Guild of St. Luke to be held at St. Paul's Cathedral on Oct. 22nd and request that those who desire to attend will communicate with me as soon as possible; as we are expecting a large attendance from the City companies and others we are anxious to allot space as soon as possible. I am, Sirs, yours faithfully,

CLAUDE ST AUBYN-FARRER,
7, Westbourne Park-road, London, W., Registrar.
Sept. 9th, 1907.

TEA SHOPS AND DUST.

To the Editors of THE LANCET.

SIRS,—May I draw your attention to the practice that seems to me insanitary and otherwise objectionable of sweeping the floors of tea shops while customers are eating and drinking. I admit it is not done during the busiest time, but I have just been suffering from it in one such shop at 2.40 to-day. A word of condemnation in your columns would go far to suppress this nuisance.

I am, Sirs, yours faithfully,

August 22nd, 1907. ACE.

THE ROYAL SOCIETY OF MEDICINE.

To the Editors of THE LANCET.

SIRS,—The usual annual issue by the editors of the Medical Directory of slips for correction will perhaps place others of your readers, as it has myself, in a little difficulty as to how they should describe themselves in connexion with the Royal Society of Medicine. I believe that a Fellow of the late Royal Medical and Chirurgical Society *ipso facto* becomes a Fellow of the new Royal Society, but how is my partner to replace his "Fell. Obst. Soc.; Mem. Clin. and Path. Socs."? and how is one who previously belonged only to the Clinical Society to write himself down?

I am, Sirs, yours faithfully,

Sept. 9th, 1907. PUZZLED.

THE PUBLIC AND PRIVATE SLAUGHTER-HOUSES OF DUBLIN.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

PART I.

The Public Abattoir.

THE position of Dublin in regard to its slaughter-houses, public and private, is peculiar and somewhat perilous. Under existing conditions there can be no serious guarantee that the meat is properly inspected before it is sold for human food. On the other hand, the complications that have arisen are such that it is not easy to see how matters are to be arranged in a satisfactory manner without occasioning a good deal of friction and opposition. To put the case briefly, there were many private slaughter-houses in existence when the Dublin Improvement Act of 1851 became law. Since that date licences for slaughter-houses have been frequently granted, although they were accompanied with the stipulation that on the establishment of a public abattoir these private slaughter-houses should be given up. Ultimately a public abattoir was built, but it was placed on the county side of a road which divided the county from the city of Dublin. Thereupon the butchers contended that as the abattoir was not within the city they could not be made to go there and need not give up the temporary licences that had been granted to them on the conditions explained above. Either the butchers were right in law or the authorities supine in the matter, for the butchers were not forced to close their private slaughter-houses. In 1890, however, another Dublin Improvement Act was passed and then the boundaries of the city were extended, so that now the public abattoir is within its jurisdiction. In these circumstances it was naturally thought that the private slaughter-house licences would, as originally intended, come to an end. These, however, are technical matters. They do not come within the scope of popular, political, or theological controversy, and the great mass of the people at Dublin are not taught to study such purely practical and scientific problems. Therefore the handful of butchers who have a personal interest in the question are often able to act as if there were no other interests than their own to consider, because public opinion is too ignorant or too indifferent to exercise any check. Thus interested parties were able to bring influence to bear, so that the corporation of Dublin during the passing of the Act agreed to regard as permanent the temporary licences which it had granted. Instead of coming to an end automatically when the boundaries of the city were extended and included the public abattoir it was now stipulated that these licences could only be extinguished by purchase. Yet it cannot be said that these butchers had a vested interest since the licences were only given as temporary licences. It was known from the first that the butchers would be called upon to remove their slaughtering business to a public abattoir; nevertheless, the ratepayers are now to be called upon to give them compensation. But this is not all, for even if the money is forthcoming another difficulty arises. The Act insists that only one person can receive compensation in regard to the closing of a private slaughter-house and it is often a matter of great perplexity to determine who that one person should be. Thus it is that since the passing of the Act in 1890 only 18 private slaughter-houses have been closed, and, including some situated in three townships recently annexed to the city, there still remain in Dublin no less than 62 private slaughter-houses.

That it is necessary to do away with the private slaughter-houses can scarcely be questioned; it can only be urged that their abolition should be deferred till a very much better public abattoir is built than that which now exists. The situation is described by Surgeon-Colonel D. Edgar Flinn, medical inspector of the Local Government Board of Ireland, in his official report for 1906. He there states that about 70 butchers avail themselves of the public abattoir, killing there from 700 to 800 animals weekly. The average number of cattle slaughtered weekly is about 200, of sheep 450, of pigs 50, and of calves 6. On the other hand, the killing in the private slaughter-houses is approximately estimated at cattle 380, sheep 1671, pigs 739, and calves 20. Thus only about a quarter of the slaughtering takes place at the public abattoir; by far the greater part of the Dublin meat comes from private slaughter-houses. Many of these private slaughter-houses

are, the official report states, "in most unsuitable and thickly populated localities." The report adds that:—

A special department is now formed under the efficient charge of Mr. Watson, M.R.C.V.S., for the purposes of meat, fish, and food inspection generally, but it is obvious that he can never adequately control the meat-supply of the city until the private slaughter-houses are abolished and the meat killed under his supervision in the abattoir. The Dairy Inspection Department has also, as mentioned before, been placed under his supervision as well as the inspection of slaughter-houses. The whole question, not only of meat but of food inspection generally, is a wide and vitally important one, and requires close and unremitting attention on the part of the public health committee.

Slaughter-houses situated in such crowded localities as Moore-street, Townsend-street, Chatham-street, Westland-row, Thomas-street, Francis-street, Dorset-street are a positive nuisance to the residents in these districts.

Such is the historic aspect of the subject; and having ascertained this much I proceeded to visit the public abattoir. It is situated in the direction of Phœnix Park, just opposite, and conveniently near, the large cattle-market. If the butchers who buy their cattle there took them merely across the road to the public slaughter-house it would save them much time and trouble. But the majority prefer to drive the animals through the streets of Dublin to their private slaughter-houses. This, of course, is bad. The animals by their droppings add to the difficulty of keeping the streets clean. The barking of dogs, the shouting of men, and the lowing of the cattle add to the street noises. These animals not only impede the traffic but by reason of the blows and dog-bites which they receive and the panic into which they are thrown the disturbance caused by their journey to the Dublin cattle market is aggravated. At the slaughter-house the cattle would not only be spared the alarm of being driven through strange streets amid terrifying tramways and motor-cars, but there are adjacent fields where they could rest and graze for a few days before being killed. Also (and perhaps these form the best constructed part of the Dublin abattoir) there are the lairs or stabling attached where animals can rest and recover from the effects of travelling. The surrounding fields belong to the city of Dublin and are kept at present for grazing purposes but also in view of a probable enlargement of the slaughter-house. The sheep and cattle lairs consist of a sort of verandah with corrugated roofs, with concrete and fluted flooring, so that the liquid manure easily drains away. But there are some wooden planks at the edge of the flooring that should be removed, as they naturally absorb much of the foul moisture.

Taken altogether, I must confess that I was much disappointed with the public abattoir. It cannot for a moment be compared with any good model slaughter-house of the continent. The one excuse is that it was built in 1882; that is, before the modern principles had been generally accepted. The unpretending entrance, the very simple office for the management, the absence of uniforms, of smartness, and of that appearance of order, discipline, and dignity which conveys the impression of the majesty of government, at once proclaimed the fact that in the building and organising of its public abattoir the city of Dublin had utterly failed to understand the importance of its mission. A public slaughter-house should be an elegant edifice, kept so bright and clean and tidily regulated in every part as to constitute a demonstration of the power of science to civilise even the most brutal of occupations. Those who built the Dublin slaughter-house had evidently no knowledge of what constitutes a model modern abattoir. Thus on entering the first steps are taken on square pavement stones that go up to the doors of the slaughter sheds. Here blood and manure flow upon these stones. Yet they are not cemented, so that the subsoil is befouled. Now close at hand there is a terrace of new dwelling-houses and under them subsoil water is likely to contain some of the blood and manure from the slaughter-house. One of the great grievances against private slaughter-houses is that they contaminate the subsoil in towns, and here is a public abattoir doing the same.

To the right on entering there is a lofty hall sometimes called the meat market. Carcasses should be brought to this hall and hung so as to cool. Under the same roof there is a cold storage where for 1*s.* 6*d.* for the first day and 1*s.* for the following days a butcher may hang the meat which he cannot dispose of rapidly. The "omnibus" rails, the patent scales, the lofty, well aired, shady and cool character of this central compartment, are certainly preferable to, and more commodious than, anything to be found in a private slaughter-house. No individual butcher could afford to build anything like it for his own private use. But I have seen in the town one or two private slaughter-sheds that were, if anything, better than those of the public abattoir. To begin with, the slaughter or killing rooms at the public abattoir have exactly the same disadvantage as those in the town—namely, they are private. Certainly they can be more readily inspected, but only by reason of their construction and because they are nearer to each other. In other words, there is no slaughter-hall but there are several small compartments let out to various butchers. Indeed, butchers complained to me that these slaughter-rooms are let out to the highest bidder, thus giving special advantage to the wealthiest butchers. On the other hand, on questioning some of the town officials, I was assured that this was not the case for all the slaughter-rooms. Some were always available for the smaller butchers who would only use them for a short time. Obviously, however, it is easier to find room in a large slaughter-hall than when the same space is divided up into compartments. More important, however, than this consideration of the convenience of the butchers is the public health point of view. Obviously it is easier to watch over what is done in a large hall than in small compartments, and the latter are not so easily cleansed or ventilated. Therefore the Dublin abattoir is behind the times because it still tolerates compartments.

The slaughter rooms or compartments are also in themselves defective. The walls very properly are of glazed bricks up to a certain height but somehow the splashings go above this, striking and sticking upon the porous part of the wall. In one instance some offal must have been thrown up purposely for large pieces were adhering to the walls at a height of ten feet or more. It suggested that pieces of fat and offal had been used as missiles in a free fight. Such disorder would, in Germany, be absolutely incomprehensible; it would drive the officials to distraction. To treat Government property with such scant respect would shock the German mind more than words can express and it is necessary to remember that it is to Germany we must look for the best example in regard to public abattoirs. All splashing above the glazed part or dado cannot be satisfactorily cleansed away and its occurrence should be rendered impossible. But worse than this, because so easy to avoid and yet so abominable in itself, were the horrible wooden tables riveted to the walls on which the intestines are laid so that the fat may be removed therefrom to make butter substitutes. Between these tables and the wall there is a space from half to an entire inch wide in which fat, offal, blood, dust, and dirt cake and remain for days, weeks, perhaps months. For such work no wood should be used. In any case, if there be wooden tables they should stand on their own four legs and be removeable from the wall so that they can be cleaned on all four sides and that the walls can also be cleaned. There is evidently no sanitary police force here.

Immediately behind each of these slaughter-rooms or compartments there is a small stable or lair where animals are kept for a short time before they are killed. These small stables are very dark; they are reeking with manure, and it would be no easy matter to clean them thoroughly. The manure oozes out of them and runs on to the uncemented pavement opposite a second row of slaughter-sheds or rooms. These have also got similar stables behind them. The carcasses from the second row of slaughter-rooms should at once be removed to the large hall where the meat is intended to hang and to cool. This removal of carcasses can be easily effected from the first, but not so easily from the second, row of slaughter-rooms. Consequently a good deal of the meat is simply hung up in the open outside the second row of slaughter-rooms. The carcasses are then exposed to the effluvia from the stables of the front row which face them and of the second row behind them and also to the dust and dirt caused by the traffic; to the rain or sunshine; in fact, to multiple influences likely to compromise the quality and the cleanliness of the meat. This ought not to be; the carcasses should at once be taken to the cooling hall built for their reception; but some butchers assured me that as they could not do this easily they did not do it at all, forgetting that in such matters there should be no option allowed. It is not a question of the butchers' convenience but of the proper preservation and preparation of meat.

There are but few pigs killed at the Dublin abattoir, as the figures given above show, but the place where they are killed is much superior to that provided for horned cattle and can easily be kept clean. With all its defects the public

abattoir affords not only this but several other advantages. The slaughter-sheds, with all their faults, are better than many of the private slaughter-houses. There is better prospect that the meat will be properly inspected. Then there is a condemned meat department, so that what is unwholesome is promptly separated from what is fit to eat. The site also on which the public abattoir stands is on an elevation well exposed to the purifying action of all the four winds. The establishment could be easily improved and better discipline and greater cleanliness enforced. Though historic truth, and judging after seeing many model slaughter-houses on the continent, compels me to criticise and to find fault with the Dublin public abattoir, it nevertheless remains superior to most of the private slaughter-houses. The latter undoubtedly must be swept away, but it will be necessary at the same time to effect very great improvements in the public abattoirs that are to replace them. It now remains for me to describe the condition of some of the private slaughter-houses of Dublin.

(To be continued.)

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Modern Surgery.

A GARDEN party was given at the Ashton-under-Lyne District Infirmary on Saturday last to mark the completion of improvements and extensions to the institution. Mr. William Thorburn, one of the surgeons to the Manchester Royal Infirmary, was amongst the guests and made some interesting remarks on the progress that had taken place in surgery even during the period of his connexion with the infirmary. 25 years ago the number of operations performed in a given time by one surgeon was 56, while now the number performed in the same time was 205. The deaths out of the 56 cases were 12; the deaths to-day out of the 205 cases were still 12. This is a striking reduction in the mortality after operation. He went on to speak of the still more striking advance in the surgical treatment of disease, particularly of the internal organs. 25 years ago five operations, which to-day would be considered slight and which were more or less tentative, were performed in six months. Of the five cases two died, which would give a mortality of 40 per cent. To-day, in the same period, 73 such operations were performed, with a total of six deaths. Then, as regards the saving of limbs, among the comparatively small number of operations 25 years ago there were 16 cases of amputation, of which eight died; while at the present day, in the far larger number of operations, they had only eight amputations and no deaths. "Both the periods he had selected were since the introduction of anæsthetics and antiseptics and they simply represented the gradual outcome of a steady and persistent study of disease, the nature of disease, the means of recognising disease, the precise localisation of disease, and the organisation of the staff which has to deal with that disease in a great hospital. If there was one point more outstanding than another it was that in these 25 years they had trained everybody, every nurse, every charwoman who had to deal with the ward, to do their duty in the most thorough way, and to eliminate little sources of error which formerly used to crop up." Though Lord Lister's name is not mentioned in this passage, for his investigations have so much influenced surgical views and their results have been so dominant in shaping surgical methods, and have become so much an unquestioned and integral part of surgical science that the originator is almost liable to be forgotten, yet it bears testimony to the debt that surgery and indeed the whole family of man owe to the patient and in those days the difficult labours of one man. The stimulus given by the work and example of Lord Lister has had much to do with the infinite pains and watchful care that characterise the surgery of to-day.

The Sale of Poisons.

The careless way in which the sale of poisons is sometimes carried on leads from time to time to fatal results. An inquest was held at Rochdale on Sept. 7th on the body of a man who died from drinking ammonia from an unlabelled bottle. The coroner said that it was a dangerous thing to sell poison in this way and "he should report the matter to see if a stop could not be put to the indiscriminate sale of poisons." This is really an urgent matter, for though it may be said that the man owed his death to his own folly, it is no less a fact that many people require protection from the consequences of such folly. The verdict was the ordinary one—"Accidental death."

Drunken Jurymen.

An inquest was held last night at Bury on the body of a man who was hurt on a railway and died the next day, and the verdict was "Accidental death." The peculiarity of this inquest was, however, that the coroner is reported "to have tolerated the conduct of two of the jurymen but reprimanded them." They insisted on asking questions which the coroner, Mr. S. F. Butcher, said had nothing to do with the case. Eventually the interruptions led him to tell the jury that "If any juryman has had too much drink he will be wise to hold his tongue, because if he does not he will be fined." The first part of this utterance is of wide application, even where there is no fear of a fine. The coroner's officer said that the two men were sober at noon when he warned them to attend.

Fines for Adulteration.

Southport has long been famous for its shrimps and is sometimes scarcely able to supply the demand for potted shrimps without some outside help. Yesterday a local fish-dealer was fined 20*s.* and costs for selling potted shrimps containing an excess of boric acid. It was stated by the prosecution that the shrimps had 107·6 grains of acid to the pound, while the Commission that had inquired into the matter only allowed 35 grains to the pound. Another Southport tradesman was fined £2 yesterday. In this case it was for selling as butter a substance containing 90 per cent. of margarine.

Sept. 10th.

LEEDS.

(FROM OUR OWN CORRESPONDENT.)

Opening of the Medical Session.

THE medical session will be opened by an informal "at home," to be held in the Medical School on the afternoon of Oct. 1st, when Major Ronald Ross, Professor of Tropical Medicine in the University of Liverpool, will present the prizes. Leeds is thus departing on this occasion from the custom of having an opening address. In the evening there will be held as usual the annual dinner of the medical profession of Leeds and district, when, in addition to Major Ross, there will be numbered among the guests the Lord Mayor of Leeds, Lord Airedale, and Professor Miall. Lord Airedale's interest in all that pertains to the welfare of the University is well known. He was one of the first of its honorary graduates, receiving at the inauguration ceremony the degree of D.Sc. at the hands of Lord Ripon.

Leeds Sewage Disposal.

At a meeting of the Leeds city council held on Sept. 4th the following motion was carried without discussion:—

That the council promote a Bill in the next session of Parliament to obtain compulsory powers of purchase of a portion of the Templenewsam estate, not exceeding 600 acres, for the purposes of sewage disposal and to obtain such other powers as may be necessary to enable the council to carry out the scheme for disposal of the sewage of the city which has already been sanctioned by the council.

It will be remembered that at the recent assizes an order on the subject was made by Mr. Justice Grantham and this action on the part of the council is in harmony with the terms of the order.

The Supply of Water to Charitable Institutions.

A deputation, consisting of Mr. Charles Lupton and other members of the infirmary board, came before the corporation with respect to a proposal which had been made that the charge for water supplied to the infirmary should be increased from 3*d.* to 6*d.* per 1000 gallons. The proposal was a general one and it was intended to apply to all the charities and educational institutions of the city, but Mr. Lupton pointed out that the work of the infirmary was carried on without any support from the rates, that last year the expenditure exceeded the income by £4000, and that the infirmary was doing a great work which otherwise would have to be undertaken by the municipality. In his opinion the corporation should not expect to make a profit from the infirmary on the water-supply. He supported the request of

the infirmary by a reference to other cities, and mentioned that in one of the largest cities in the empire a similar hospital to the General Infirmary not only got all its water free of charge but was also in receipt of a subscription from the municipality. At present the amount paid by the infirmary was £356 per annum and he expressed the hope that the council would see its way to exempt the infirmary from the operation of the proposed increase of rate. Mr. Lupton rightly enlarged on the difference which should exist in the treatment of a rate-supported or rate-aided institution and one supported by voluntary contributions. To increase the rates in the former class is, as he said, in a measure to take money out of one pocket and put it into another.

Nursing at the General Infirmary.

The maintenance of a high standard of efficiency in the nursing at hospitals and infirmaries is, as one might expect, a source of great expense, and any increase in the number of the staff should be carefully considered before it is carried into effect. Some months ago a committee of the board, consisting of laymen and members of the honorary staff, was appointed to consider the nursing arrangements and to report to the board. A good many meetings were held and information was obtained from most of the larger metropolitan and provincial hospitals. It may be pointed out that the General Infirmary at Leeds undertakes, as its name implies, all kinds of work, and that there are special departments for diseases of women, special medical and surgical wards for children, special departments for ophthalmic and aural cases, and a very large out-patient and casualty department. The number of in-patients last year was 7052 and the average number in the infirmary at one time was 365. The number of patients treated at the Robert Arthington and Ida semi-convalescent homes was 1247. At the time when the committee of inquiry was appointed the staff consisted of the lady superintendent and her assistant, with a nursing staff of 101, which included 16 nursing sisters or charge nurses. Each of the nine large wards, which accommodate 28 or 32 patients, is in charge of a sister with a varying number of nurses under her. Six of the wards are in groups of two and each group of two is under the charge of a sister in the same way. The remaining four sisters are in charge of the casualty and out-patient department, the theatres, the supervision of the night nursing and the two semi-convalescent hospitals, and each of these has a varying number of nurses under her. The committee felt that a case was made out for an increase in the number of the nurses and special attention was given to the conditions of the nursing during the night and to the question of the occasional employment of extra nurses at times of stress from some of the various nursing institutions in the city. It was felt by the committee that the demand for these extra nurses, mainly required when it is necessary to have the services of one or more nurses entirely devoted to one patient, was of so fluctuating a character that it would be unwise to make any attempt to meet this by an increase in the staff, and in future, as in the past, outside nurses will from time to time be engaged. The night nursing has been under the immediate supervision of the night sister and her assistant. In each of the nine large wards and in each group of the smaller wards, as above explained, there is one night nurse but one of the heavier wards is provided with two. There are also three nurses who are moved about by the night sister to meet the varying periods of activity in the different wards, and the making of beds and the other routine duties of the wards are arranged in harmony with this. There was much discussion as to whether the increase in the night staff should take the form of placing extra nurses in the heavier wards or in an increase in the number of these moveable nurses, and the latter plan was unanimously decided upon. There will be an increase in the number of nurses on duty in the theatres and in some of the wards, and at a recent meeting of the board the recommendation of the committee that ten extra nurses should be engaged was ratified. Accommodation for nine of the ten extra nurses will be provided in two empty houses belonging to and adjoining the infirmary, after some structural alterations at a probable cost of about £300, and in estimating the future expenses of the infirmary an additional sum of £600 per annum must be reckoned for as the cost of the additional nurses recommended by the committee. The nursing staff will therefore now consist of 111 sisters and nurses exclusive of the lady superintendent and her assistant.

Sept. 10th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Merthyr General Hospital.

THE General Hospital at Merthyr Tydfil has been enlarged several times since its establishment in 1887. Last year an addition was made to the accommodation on the female side at the cost of Sir William Thomas Lewis and to the male side by public subscription. The increased general expenditure involved by this additional accommodation has been met by an annual contribution of 1*s.* from each workman employed in the local collieries and ironworks. The men employed at the Cyfarthfa works have not joined in this general scheme because they maintain that every medical man practising in the town should be *ipso facto* a member of the staff of the hospital. The workmen at the other works contend that the Cyfarthfa men should not have the benefits of the institution unless they comply with the conditions in force elsewhere, and the executive board of the hospital upholds this contention, so that except in cases of extreme urgency the Cyfarthfa men are not received for treatment.

Bristol Pauper Children.

In a city so renowned as Bristol for its philanthropic institutions it is not a little strange that those who are responsible for the well-being of the poorest classes should appear to have so little sense of responsibility when the medical care of the latter is concerned. For some years past the Local Government Board has been urging the board of guardians to provide better and more adequate infirmary accommodation but the recommendations of the central authority have upon one pretext or another been either entirely ignored or postponed. At the last meeting of the board of guardians but scant courtesy was shown to suggestions made in a report of Mr. Andrew Fuller, a medical inspector of the Poor-law department of the Local Government Board. Mr. Fuller had made an inquiry into the medical supervision of the children under the care of the board of guardians. Some of these children are in grouped homes and others in scattered homes. As regards one of the former, at Downend, it appears that a medical man attends weekly and at other times when required, the superintendent matron being responsible for the decision when these other times shall be. As Mr. Fuller very properly pointed out, this places upon the matron a responsibility which she should not be called upon to bear—namely, the diagnosis of what may be termed minor ailments. The two most prominent recommendations made by Mr. Fuller had reference to the necessity for periodical examinations of the children's teeth and an examination by a specialist of the naso-pharynx of every child in the homes with a view to ascertain the necessity for medical or surgical treatment. Mr. Fuller stated that he found several children with badly ulcerated gums owing to their teeth requiring attention, while others had had their first teeth extracted, and none of the carious teeth of any of the children had been stopped. He also pointed out that quite a large proportion of the children were suffering from conditions of the nasal passages which required surgical or other treatment. In spite of these very precise statements from so experienced an official as Mr. Fuller his recommendations were spoken of by members of the board of guardians as "absurd" and "monstrous," mainly apparently because they involved additional expenditure. They do not seem to realise that nothing is more wasteful than to send out into the world from their schools youths and girls handicapped with deafness and the other untoward results of adenoid growths, and with their teeth so decayed that their digestive functions are seriously impaired.

From Medical Officer of Health to Medical Missionary.

Dr. Peter Fraser, the medical officer of health of Carnarvonshire, has just applied to the Calvinistic Methodist Foreign Missions for an appointment as medical missionary in the Khassia Hills, India. It is expected that his application will be accepted and that his wife will share in his work. Dr. Fraser has made great efforts for the improvement in the housing of the working classes and has been instrumental in the removal of large slum areas in Carnarvon.

Sept. 10th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Girgenti Home for Inebriates.

THE sixth annual report by the corporation of Glasgow to the Secretary for Scotland of the Girgenti Home for Inebriates states that there were 41 inmates in the reformatory on Dec. 31st, 1905, while up to that date there had been 113 admissions. During the year 1906 there were 17 new admissions, making the total number on the register 130. The medical officer has classified the patients as follows: hysterical patients, 18; weak-minded (moral paralytics), 17; accidental drunkards, 22; and chronic inebriates, 73. The largest number of inmates still comes from the lower grades of society, and as they have been "out and in" the poor-house for years they can be called "pauper inebriates." In connexion with chronic inebriates the medical officer is of opinion that a cure is highly improbable and very nearly impossible. It must be remembered that the majority of cases had been confirmed drunkards for a number of years, and when admitted were suffering from physical conditions the result of disease and accident. The treatment adopted in the reformatory is essentially the same as that adopted for mental disorders, and endeavours are directed not so much to stop the drinking of alcohol as to suppress the craving for it. Two years ago the medical officer in charge made trial of the drug treatment, which consisted of the administration of $\frac{1}{100}$th grain of atropine sulphate daily and also a mixture containing quinine, sodium, ammonium, and aloin. 22 patients willingly consented to undergo the treatment which was not, however, successful. The financial statement for the year shows that the expenditure (exclusive of expenditure on the farm and garden) amounted to £2628, equal on the average to £62 11*s.* 5*d.* per inmate per annum, or to £1 4*s.* per week. Of this weekly amount there were contributed by the Government 10*s.* 7*d.*, by the corporation 12*s.* 10½*d.*, and by sundry revenues 6½*d.* On the farm and garden account for the year there was a credit balance of £57 10*s.* 8*d.*

Deadly Concoction Drunk by Poles.

Some extraordinary revelations were made at a recent meeting of the Dalziel parish council with reference to the drinking habits of Poles, of whom there are in Lanarkshire a considerable number engaged in working as coal miners. It was stated that cases had been sent to Kirklands Asylum, chargeable to the parish, on account of their indulgence in a drink which was doing much injury among Poles in the district. The concoction was a mixture of methylated spirit, ether, and paraffin oil, and it was asserted that a thimbleful of it would do more injury to a man than a bottle of brandy. This drink is hawked through the streets and the sale of it does not seem to be a contravention of the Licensing Acts. It was decided to communicate with Mr. Findlay, M.P., to get the matter brought before Parliament with a view to putting down the traffic in this stuff.

Death of Mr. John Stuart Nairne.

I announce with regret the death of Mr. J. Stuart Nairne, F.R.C.S. Edin. and F.F.P.S. Glasg., which took place this week at his residence in Renfrew-street, Glasgow. Mr. Nairne, who was in his sixty-first year, has been in failing health for some time, and about a week ago, while on a visit to the country, he caught a chill which developed into his fatal illness. A native of Irvine, Mr. Nairne received his education in Glasgow, at first serving his apprenticeship as a pupil teacher but eventually turning his attention to medicine. At the close of his medical curriculum he began practice in Glasgow, his special interest lying in surgery. By frequent visits to hospitals at home and abroad he made himself acquainted with the most advanced methods of treatment and operation and latterly devoted himself chiefly to gynæcological work. For some time he conducted a gynæcology class for women in the Western Medical School. Impressed with the great amount of suffering among women he was the moving spirit in the foundation of the Samaritan Hospital which was inaugurated in Cumberland-street in January, 1886. Mr. Nairne was the first surgeon of the hospital and held office until 18 months ago when he was appointed consulting surgeon to the hospital. He took a great interest in the recent large extension of the institution and was present at the opening of the new section by Lady Blythswood in April last. On his retirement he was the recipient of a public testimonial, consisting of a cheque for about £300, a study chair, and of silver plate for Mrs. Nairne, the presentation being made by the Lord Provost. Mr. Nairne is survived by his wife, one son, and three daughters.

Lecture by Sir A. E. Wright at Glasgow Royal Infirmary.

The opening lecture of the autumn course of post-graduate classes in connexion with the Glasgow Royal Infirmary was delivered in the Dispensary Hall last week by Sir A. E. Wright. The Lord Provost presided and there was a large attendance of medical men. The subject of the lecture was "The Principles of Vaccine-Therapy," or a new method of treating bacterial disease. The present methods of treatment—antiseptics, extirpation, serum-therapy, and the expectant method—were all pronounced unsatisfactory by the lecturer and he proceeded to show the defect of each. He was sorry that so many surgeons were still satisfied with the extirpation method which really belonged to barbarism. It was quite ineffective, except, perhaps, in the case of the appendix, which could be taken right away. He then went on to describe the principles in detail of vaccine-therapy and predicted that it would form an important branch of study in the medical schools of the future.

The Sanitary Association of Scotland.

The Sanitary Association of Scotland held its annual meeting last week at Aberdeen and was able to demonstrate, to quote the words of the *Aberdeen Free Press*, that "it is not merely the pedagogue who calls the school to order and sets the old lessons anew; it also plays the part of pioneer in making fresh advances, and its conferences form a record of progress at once encouraging and useful." To the march of sanitation Scotland and the country at large owe a great deal, but there still remains much to be done to bring Scotland to the position in public health which the generally advanced condition of the country warrants us to expect. Dr. J. T. Wilson in his presidential address dealt with preventive measures against infectious diseases, the provision of hospitals for the isolation and treatment of those suffering from such diseases, and steps for restricting the dissemination of consumption. He took a broad view of the scope of the sanitary measures that were desirable to give the community its best chance of public health, and evidently believed that the public should be educated to understand the meaning of sanitary sin. An interesting feature of the proceedings was the discussion on cerebro-spinal fever, the declaration that the most effectual way of coping with it was to observe the elementary principles of sanitation being a clear indication of the value of the proceedings. Not merely public health authorities, who may be regarded as more immediately concerned, but the general public at large, whose health and happiness depend so largely on the adoption of effective sanitary measures, are thus taught the urgency of hygienic matters. Interesting papers were read to the congress by, among others, Mr. J. McLauchlan Young, lecturer in veterinary medicine at the University of Aberdeen, who read a paper on Meat Inspection; Dr. Matthew Hay, medical officer of health of Aberdeen, who discussed the inspection of fish; Mr. A. M. Trotter, veterinary inspector to the city of Glasgow, who dealt with the supervision of milk; and Dr. G. M. Cullen, who described the process of animal inspection in Edinburgh and spoke of the need of abattoirs. A paper read by the secretary of the congress for Dr. C. R. Macdonald, county medical officer of Ayrshire, upon the Supervision of Dairies led to an interesting debate, while a paper by the President upon the Training of Meat Inspectors also gave rise to a useful discussion.—The annual dinner of the association and a conversazione in the Art Gallery proved to be highly successful, and the officers of the association may be congratulated on having proved the value of the work of their institution.

Sept. 10th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

The Belfast Asylum.

THE report of the resident medical superintendent of the Belfast Asylum, Dr. W. Graham, for the year ended Dec. 31st, 1906, has just been issued. There were 241 admissions during the year, 1349 (626 male and 723 female)

patients under treatment, with 121 discharges and 94 deaths. The admissions show a decrease of 55 as compared with the previous year, the diminution being due to a falling-off in the cases transferred from the Belfast workhouse (the numbers from that institution being fewer by 59), while, on the other hand, the number of admissions directly from the patients' homes remains at the same ratio to the population as in previous years. In a very interesting and suggestive report Dr. Graham quotes from the inspectors of lunatics in their special report (on the alleged increase of insanity for 1906) a statement to the effect that they believe that "the Irish branch of the Celtic race is specially predisposed to mental breakdown, and therefore the great increase in the number of registered insane all over the civilised world is for this as well as for other reasons very marked in Ireland"; and they think that probably "the innutritious dietary and other deprivations of the majority of the population of Ireland must, when acting over many generations, have led to impaired nutrition of the nervous system, and in this way have developed in the race those neuropathic and psychopathic tendencies which are the precursors of insanity." Further, statistics prove—as stated in Dr. Graham's report—that the proportion of the insane among the Irish in America is greater than that of any other nationality. It is curious that Armenian and other emigrants to the United States from the Turkish dominions do not evince the same proneness to mental breakdown. Further, the refugees from Poland and from some parts of the Russian empire (whose state at home has been as unhappy as the Irish emigrant) do not show the same tendency to mental breakdown. Dr. Graham suggests, as an explanation of this curious fact, that it is due to two reasons. First, that many Irish emigrants are driven by poverty to the United States who are ill-fitted for the new conditions of life, the crowded tenements of big cities, and the abnormally keen competition for a livelihood—in a word, all that is implied in a sudden change from a quiet agricultural existence in Ireland to the bustle and excitement of New York or Chicago; and secondly, that the intellect of the Irishman is finer and that he is more civilised than the Russian or Hungarian. Owing to the fact that the Irish race, as a race, is of finer psychical structure, therefore, adverse conditions tell on him more strongly than on the others. This brightness, to quote from Dr. Graham's report, this keen susceptibility to joy and sorrow, make him more liable to mental breakdown than would be the case among duller peoples. The gross expenditure for the financial year ended March 31st, 1907, amounted to £25,483, which, after deducting receipts from paying patients and miscellaneous sources, gives the low net capitation cost of £21 1*s.* 8*d.* per annum. Special reference is made to the great loss which the institution—and, I may add, the medical profession—has sustained in the death, on Feb. 13th, 1907, of Dr. R. A. L. Graham who had been an assistant medical officer for eight years. Dr. A. S. Merrick, who for 22 years was medical superintendent (he resigned in 1897), died at the close of last year.

Queen's College, Belfast.

The report of the President of Queen's College, Belfast (Rev. Dr. Hamilton), just issued for the academic year, 1906–07, indicates that the College continues to prosecute its work with vigour and success. Special reference is made to the splendid achievement accomplished by the equipment fund. 20 years ago there was but one laboratory; now there are eight. Owing to the Treasury giving £5400 for new buildings on condition that a corresponding sum of £5400 was contributed by the better equipment fund, there are now the "Donald Currie Laboratories" devoted to chemistry, the "Musgrave Laboratories" devoted to research and teaching in pathology and bacteriology, the "Jaffé Laboratories" for physiology, the "Harland Laboratories" for natural philosophy and engineering, as well as biological, pharmaceutical, and anatomical laboratories. Of the students there was an increase in the Faculty of Arts and as usual the medical students were numerous. An athletic field will be available next session, and all the students' college societies appear to have had very useful and successful sessions during the academic year 1906–07. Among the honours to old students Professor J. W. Byers was knighted, Serjeant Dodd, K.C., was appointed one of His Majesty's judges in Ireland, and Mr. J. O. Wylie, K.C., was selected as the judicial head of the Irish Land Commission.

Women's National Health Association of Ireland.

Her Excellency the Countess of Aberdeen is to be present and to take part in a meeting which will be held on Oct. 29th in the City Hall, Belfast (the Lord Mayor, the Earl of Shaftesbury, presiding), to establish a Belfast branch of the Women's National Health Association of Ireland.

Lunacy in Ireland.

The following deplorable statistics were mentioned at a meeting of the Belfast Asylum Committee on Sept. 9th. In 1851 the registered number of insane in Ireland was 9980; in 1901 they totalled 25,050, or 1 to every 179 of the population. In 1851 the entire insane for Belfast, county Antrim, county Down, and Carrickfergus was 330. The last returns showed—Belfast, 1150; County Down, about 600; and County Antrim, about 550; a total of 2300, or an increase of 1970. While the population of Ireland in 1841 was 8,175,124, it was in 1901 4,458,775, a decrease of 3,716,349. (In 1906 the Registrar-General estimates the population as—in the middle of the year—4,388,006, while in 1906 there were 35,344 emigrants.) Comparing the number of lunatics per 10,000 of population, the result was:—

	England and Wales.	Scotland.	Ireland.
1871	30·4	34·0	30·5
1881	32·5	38·5	35·6
1891	33·6	38·4	45·0
1901	40·8	45·0	56·2

Such startling figures surely demand the attention of statesmen and patriots.

Cerebro-spinal Fever.

On Sept. 9th a boy, six years of age, who first exhibited signs of cerebro-spinal meningitis on Sept. 6th, died at Harryville, Ballymena, county Antrim.

Sept. 10th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Purification of Water in Hotels.

THE French Touring Club is organising a competition the object of which is to discover the best means of insuring the purity of water supplied in hotels. The programme has been arranged by a committee of which M. J. Lucas-Championnière is the president, and proposals are invited for methods of sterilisation which will be satisfactory alike to the Faculty of Medicine, to hotel-keepers, and to travellers. Any inventor may compete. The method or apparatus which is adjudged the best will be recommended to all hotel-keepers and to all the members of the French Touring Club.

Vaccination in Paris.

Dr. Roux has presented to the council of public health of the department of the Seine a report on his inspections of vaccination stations (*établissements vaccinogènes*) in 1906. He remarks that he cannot conclude his report without calling attention to the fact that more than three years have elapsed since vaccination and revaccination were made obligatory, but that the law has not been systematically enforced either in Paris or in the department of the Seine. Lists of persons who were required to conform to the regulations were not prepared, hours of attendance (*séances*) were not arranged, and the results were not recorded.

The School of Medicine in Indo-China.

In the School of Medicine at Saigon in Indo-China a military department has been established for the purpose of training ten native medical assistants each year. The students will be selected by competition among the native soldiers in course of training. The period of study will be four years.

Treatment of Ankylosis of the Knee joint with Malposition.

At the congress of the French Association for the Advancement of Science M. Lardennois read a paper on the treatment of the cases in which a child's knee-joint had become ankylosed in a faulty position. He said that ankylosis of the knee-joint in the position of flexion was not uncommon in children, and the proper treatment was a difficult problem because the same operative measures could not be used as in

the case of adults. An immediate correction might no doubt be obtained by partial resection of the tibial epiphysis, but the ultimate results would be disastrous, for this cartilage was necessary for the natural growth of the bone and interference with it would lead to a shortening of six or eight inches in the patient's lower limb when adult life was reached. Moreover, when the ankylosis was divided in the usual way two flattened surfaces were produced which could not be brought into satisfactory apposition when the limb was straightened. M. Lardennois avoided this difficulty by making a curved incision with Séglie's wire saw; the opposing curved surfaces obtained in this way presented a considerable area of contact and firm union might be expected.

Wounds of the Eye Caused by the Bursting of Bottles.

At the same congress M. A. Bourgeois read a paper on the treatment of wounds of the eye caused by the bursting of bottles. He said that on account of the thickness of champagne bottles the fragments produced by their bursting were usually of considerable size, and the wounds which they caused were proportionately extensive and serious; the bruising effect of the flying glass caused the edges of the wounds to be irregular but no glass was left in them. He had found that suture of the cornea or of the cornea and sclerotic gave excellent results when performed soon after the infliction of the injury. Seriously wounded eyes were invariably enucleated 20 years ago but the improved methods and instruments of modern surgeons frequently avoided the necessity for enucleation, to the advantage of the patient's appearance and in some cases a certain amount of visual power was retained.

French Ambulances Work in Morocco.

Dr. Henri de Rothschild has just started for Tangier to organise there an ambulance service for the wounded from Casablanca. With him have gone two other medical men and two nurses (*surveillantes*). The Red Cross Society (Société de Secours aux Blessés) has also organised an ambulance with the authority of the Minister of War. The general secretary of the society has started for Tangier where he will confer with the French Minister to Morocco. The ambulance will consist of 100 beds and the staff of 18 nurses, eight male and ten female.

A Gift of 4,000,000 Francs.

The Red Cross Society has just received an anonymous gift consisting of the estate of Mont des Oiseaux at Hyères. The estate includes a park of 80 hectares, terraces, gardens, a house containing 120 rooms and five villas scattered through the grounds, the whole being valued at 4,000,000 francs. The society is going to make it a convalescent home for sick and wounded officers. The anonymous donor has also given a sum of 100,000 francs for upkeep.

Sept. 10th.

ITALY.

(FROM OUR OWN CORRESPONDENT.)

Hospital Accommodation in Rome.

THE Administrative Board of the Roman Hospitals has this year been confronted with the problem of hospital accommodation in an acute form, for which a prompt remedy has become an absolute necessity. The overcrowding which for many years has prevailed in the wards of all the hospitals has lately been greatly aggravated through the demolition of part of the Hospital of Sant' Antonio on the Esquiline Hill to make room for the new Via Napoleone III.; by the removal of a wing of the Hospital of Santo Spirito to allow of the systematisation of the adjoining part of the Tiber near the Bridge of St. Angelo; and, finally, by the increase of the population of the city, which augments the number of patients seeking admission to the hospitals by about 400 every year. Whilst in London there is an outcry over the cost of maintaining empty beds, here in Rome the complaint is very different, as will be understood by a glimpse at any of the wards of such hospitals as Santo Spirito or San Giovanni. In the latter, for example, one of the wards on the ground floor contains 150 beds arranged in four rows with scant room between and every bed with its occupant. And for each bed that becomes vacant there are always dozens of applicants. With such a state of affairs already existing and the certainty in view that with the advent of winter the number of patients demanding admission will be greater still, no time was to be lost in providing additional accommodation. To meet the most pressing needs the board has ordered the immediate erection on a site contiguous to the hospital of San Giovanni of ten of the transportable hospitals known as the "Döcker," many of which are used by the Red Cross Societies in Germany and elsewhere, and of which there are already two in Rome at the Lazaretto of Santa Prisca. These "Döcker's barracks" are a Swedish invention, and are 22 metres long by six metres wide; they consist of a single storey and have a double wall of wood lined with "enamelled" cloth, and a waterproof roof made of wood and cloth, or cardboard and cloth. Each contains 22 beds. It is hoped that they will all be erected by the end of the year. Their cost will be 120,000 lire (£4800). At the same time the foundations are being laid, on a site between San Giovanni and the Via Merulana, of six new permanent hospital pavilions of two storeys each, with a large ward on each floor capable of taking 30 patients. When these are all completed some 600 additional beds will be available for the reception of patients, a provision which will give at least temporary relief to the present congested state of the other hospitals.

Outbreak of Tetanus at Bologna.

The surgical clinic of the University of Bologna has been closed on account of the numerous cases of tetanus which have appeared amongst the patients there.

The Moderate Use of Wine.

The controversy as to the use of alcoholic beverages has diffused itself over the continent, the Latin countries in particular. In Italy it still shows animation, though the *Giornale Vinicolo* (Wine-growers' Journal) is not perhaps the best medium through which the arguments *pro et contra* might be addressed to the public. These, however, are all from clinical teachers or consultants whose impartiality is beyond question, and there could hardly be a better "authority" to open the discussion than the Senator Giulio Bizzozero, whose loss to science is deplored far beyond the subalpine schools of which he was an ornament. Insisting on the wine in daily use being the genuine juice of the grape with which the "manufacturer" has as little as possible to do, he sees only good to be derived from it if taken in moderation—that is, in quantities adjusted to the physical and mental wants of the consumer. So used he has found it to brace the mind for its regular work, giving a sense of confidence as well as support to the faculties. Next comes the all-accomplished professor of physiology in the same school, Dr. Angelo Mosso, who is convinced that wine, within the limits laid down by Bizzozero, is a nutrient to the system, slowing or diminishing waste. Having placed this fact in physiological evidence, he cites the experience of the Prussian army which in the severe campaign of 1870–71 maintained its health in augmented proportion as it was quartered in ever greater force in a wine-growing country. Those in its ranks who belonged to total abstinence societies were found less able to stand the fatigues and privations of the march or the trenches than their comrades who drank in moderation the "bottled sunshine" of the Loire. Dr. Augusto Murri, professor of clinical medicine in the University of Bologna (whose contributions to THE LANCET on cerebral pathology are still referred to by workers in that field), is of opinion that the graduated use of wine is not hurtful; on the contrary, by reason of its adjustment to the individual's needs, it is distinctly wholesome. His long and varied clinical experience warrants him in saying that men who have used wine freely in their work, professional or other, maintain a high degree of vigour even in old age and that it would be more in accordance with true science to assert the value of wine, moderately used, than to condemn it *simpliciter*. Dr. Bonaventura Graziadei, who holds the chair of medical diagnosis in the University of Turin, is as clear as any of his colleagues on the subject. "Alcohol," he says, "is a necessity for man. All races possess their stimulating beverages. Of these wine is the prototype and I am convinced that its moderate use is beneficial." To the same effect may be cited the opinion of the Senator Achille De Giovanni, professor of clinical medicine in the University of Padua, while Dr. Alessandro Lustig, who occupies the chair of general pathology in the Istituto di Studi Superiori at Florence, says he finds "a glass of sound wine not only agreeable to the palate but useful to the organism." Dr. Cesare Lombroso

of the University of Turin, where he is professor of psychiatry and criminal anthropology, and who (*si quis alius!*) is a witness of the evils of the abuse of alcohol, speaks with less confidence on the subject and would advise abstention from the beverage wherever it "is impossible to fix the dose beyond which it becomes a source of the more serious mischief;" and a no less distinguished psychiatrist, Professor Enrico Morselli of Genoa, sees the root of the evil not in wine but in "the alcohols of industrial origin." Professor Capparelli, who holds the chair of physiology in the University of Catania, agrees with his *confrère* Morselli in insisting on pure wine culture and traces the harm done by "alcohol" to the artificial products thrown on the market, adding: "I believe the moderate use of sound wine to be an excellent coefficient of health," while he scouts the notion that taken thus it can ever cause hepatic mischief. Dr. Carlo Ruata, professor of materia medica in the Umbrian School (University of Perugia), maintains that a truly scientific and impartial investigation of the whole subject has yet to be started and sides with Capparelli in announcing that the moderate use of wine has never caused cirrhosis of the liver. The professor of hygiene at Naples, Dr. De Giaxa, thinks that the use of vinous beverages is a question of individual tolerance and cannot persuade himself that sound wine is not "good for digestion and the physical energy of the organism." Professor Alfredo Rubino (also of the Neapolitan University) is equally emphatic in favour of the judicious use of wine, as are also Professor Sanfelice of Messina and Professor Martinotti of Bologna. Professor Antonio Carle of Turin, who, as a pure surgeon, disclaims all pretension to speak with authority on a medico-clinical question, approves the moderate use of alcohol freely diluted; of the same school, Dr. Bernardo Silva, though an abstainer of ten years' standing, admits the benefit of graduated doses of wine, especially in fever cases and in convalescents; and Professor Galeotti of the Pathological Institute of Naples, after he had long been a teetotaler, began the graduated use of fermented liquors in convalescence from illness and found distinct benefit from it. Lastly, Professor Mangiagalli, the distinguished successor of Porro in the Lombard School, deprecates the "exaggeration" which is a distinctive note of the total abstinence propaganda. "I have even read in books," he says, "a denunciation of bread. There are certain men of science, like the mediæval Mystics, who would mould and model a humanity naked, joyless, subsisting on fruit and water. The crusade against alcohol is holy, but it can gain neither in force nor in effect by making itself the mouthpiece of assertions and exaggerations demonstrably unscientific." 18 representatives of Italian medicine, it will be seen, have each, *ex cathedrâ* and, so to speak, above his own signature, pronounced opinions on the moderate use of wine, and in well-nigh every case, some more, some less, emphatic in expression, have declared in its favour. Wine, not spirits, the juice of the grape *par excellence*, as consumed in Latin countries, is the beverage under consideration, and there is unanimity among the 18 medical men as to the wine trade having itself to blame if by impure production it plays into the hands of those who would eliminate all wine, good as well as not so good or positively bad, from human consumption. One of the 18 anticipates a reaction against the mineral waters now so common as a substitute for the "bottled sunshine" of his native land. In these, too, it is alleged, there is spurious manufacture! But, when all is said and done, the public have nothing to lose by discussions which make for the production of a genuine article and for the use of the said article in moderation.

Sept. 7th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

Birth Returns.

THE Imperial Medical School of Haidar Pasha on the Asiatic side of the metropolis has submitted a very useful suggestion to the Ottoman Ministry of Justice, as well as to the central municipality, with regard to the necessity of registering in a constant and regular way the birth returns of Constantinople. Up to now only deaths were recorded, whereas the returns of births were utterly neglected. This neglect rendered the accurate making of the census and the ascertaining of the actual increase or decrease of the indigenous population impossible. True, there existed the practice of registering the births by imams and mouktars, as well as by the officials of non-Mussulman religious communities, but this was done in a very incomplete, negligent fashion, the returns never being submitted to the municipalities. Henceforward it is intended to remedy this state of things. Orders have been given that each municipality is to provide a general official register for the purpose of entering birth as well as death returns. The municipal sanitary inspectors will be responsible for the regular and accurate registration. It will thus be possible in the future to compare the death- and birth-rates and to make correct statistics of the movement of the population.

Yaghourt and its Adulteration.

One of the chief popular foods in Turkey is yaghourt. This is a kind of curdled milk which makes a very favourite dish in spring and summer time, especially with the poorer classes of the population. At present there exist six factories which supply the metropolis with yaghourt; two at Epivatis, one at Tcheuplidé, and three at Callictaria. The one at the last-named place, in possession of a Moslem, is the largest and best equipped. It is a stone building and has three large boilers of 600 litres capacity each. The milk used in this factory is that of the sheep. This is boiled for two hours, being at the same time agitated, and then poured from a considerable height into numerous receptacles which are made of tin and placed upon tiers of slightly heated shelves. Here it is left for two or three hours. The scum is then taken off and rennet introduced for coagulation and fermentation. Now, it has been found that the yaghourt is frequently adulterated, extraneous matter, such as flour, or starch, or gum, or other oftentimes injurious ingredients, being introduced into the milk kept for its preparation. This fraudulent practice will now be strictly forbidden and severe measures taken to insure that all the yaghourt factories, and the local dairies where this food stuff is being prepared on a minor scale, shall produce pure, unadulterated yaghourt. The municipal medical men will visit at regular intervals the factories and the dairies. They will also examine the dishes and receptacles of hawkers selling yaghourt in the streets. Every fraudulent practice will be heavily punished.

The Cholera.

Extensive and energetic measures are being taken against the dreaded invasion of cholera from Russia. In that country the scourge seems to make great ravages, judging from the reports received in Constantinople. It is spreading through many provinces and has reached even St. Petersburg. The Red Cross Association of that city has granted 100,000 roubles for the purpose of combating the epidemic. This association also sends a number of medical men to every infected district, while medical committees hold frequent meetings for the discussion of means and measures of prevention and cure. The government of Samara seems to suffer most but Simbirsk, Astrakhan, and Sisran are also suffering greatly. One valuable measure is the erection of tea houses, thus enabling the populace to dispense with the use of unboiled river water. It is to be hoped that the steps taken in Constantinople will prove to be efficient, but at any rate the Conseil Supérieur de Santé is exhibiting a laudable vigilance.

August 23rd.

VACCINATION FEES IN SOUTH WALES AND THE WEST OF ENGLAND.—At a meeting of the Neath (Glamorganshire) board of guardians held on Sept. 4th it was decided to pay the minimum vaccination fees to the public vaccinators.—At a meeting of the Warmley (Gloucestershire) board of guardians held on Sept. 3rd it was decided to give the minimum fees for vaccination to the public vaccinators of the union, one of the guardians remarking that "he was sorry they could not make it lower as he did not believe in vaccination."—The public vaccinators of the Bristol union have accepted the fees for vaccinations as suggested by the guardians. Seven of the public vaccinators consequently will receive the minimum fees allowed by the Local Government Board and the remaining two gentlemen will receive 3*s.* 6*d.* and 4*s.* per case respectively, owing to the larger area and more scattered population of their districts.

Obituary.

TIMOTHY HOLMES, M.A., M.C. CANTAB., F.R.C.S. ENG.,

FORMERLY VICE-PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND; FELLOW OF PEMBROKE COLLEGE, CAMBRIDGE; CONSULTING SURGEON TO, AND JOINT TREASURER OF, ST. GEORGE'S HOSPITAL.

WE deeply regret to record the death at the advanced age of 82 years of Mr. Timothy Holmes, senior consulting surgeon to, and until recently joint treasurer of, St. George's Hospital. We have lost in him one of the great figures of Victorian surgery. Although he was but a name to those who have joined our ranks since 1887 or so, for a quarter of a century before that date he was ranked by universal opinion among the leaders of his science, appealing to the practical man, the educational expert, and the scientific surgeon alike by the range of his knowledge, the breadth of his views and his power to express them clearly.

Timothy Holmes was the son of a London merchant who died while his children, two sons and a daughter, were still quite young. He was educated at the Merchant Taylors' School, and later at Pembroke College, Cambridge, where he took one of the best degrees of his year, 1847, being thirteenth classic and also a wrangler. From Cambridge he proceeded to St. George's Hospital, where the leading members of the honorary staff at the time were Dr. Bence Jones, Mr. Robert Keate, and Mr. Cæsar Hawkins, the last two attaining to the post of President of the Royal College of Surgeons of England; the junior physician was Dr., now Sir Henry, Pitman who still remains among us; while Dr. Handfield Jones and Mr., afterwards Sir, Prescott Hewett were demonstrators of anatomy and physiology in the medical school. Holmes having decided to be a pure surgeon proceeded at once to the examinations for the Fellowship, passing the final in 1853 and never being a Member of the College. He was marked out from the first by his intellectual attainments for a place upon the staff, and after a brief interval, during which he served the usual offices of demonstrator of anatomy and surgical registrar, he was elected assistant surgeon to the hospital. In 1868 he became full surgeon, a post which he held until 1888, his time of office having undergone special extension. On the expiration of his surgeoncy he was elected consulting surgeon and also accepted the onerous and thankless task of treasurer, being associated in an honorary capacity in this post with the late Duke of Westminster. When at length he resigned this office he had worked for 50 years for the institution, and during the whole of that unusual period the impression which he had first created never varied—all his colleagues, his seniors and his juniors, saw in him a just man, one whose great intellectual capacities would never be used in a narrow or selfish way, the very type of a professional leader and the ideal friend for those who had their way to make.

Holmes's connexion with the Royal College of Surgeons of England was a long one. In 1872, 1873, and 1874 he was Hunterian Professor of Surgery and Pathology, and delivered at the College an extended series of lectures on the surgical treatment of aneurysm which confirmed the impression already conveyed by his literary work that he was a great expositor of his science and art. In 1829 and 1830 George James Guthrie had delivered the Hunterian Lectures on the same topic, and Holmes reviewed the whole subject in the light of the surgical development that had occurred during the intervening 40 years, bringing to the assistance of his great critical faculty the pen of a finished scholar. It was probably the success of these lectures which decided him to write his well-known "Treatise on the Principles and Practice of Surgery," though his literary capacity had been already exhibited in his work as general editor of, and contributor to, Holmes's "System of Surgery, Theoretical and Practical," a second edition of which was called for during his professorship at the College. In 1873 he was elected, together with John Marshall and Luther Holden, both of whom afterwards occupied the Presidential chair of the College, to the court of examiners; in 1877 he became a Councillor, being later elected a Vice-President of the College. It must be taken for granted that nothing but his own wish and action deprived him of the Presidency, for if ever an officer of the College had a claim upon that position by dignity of character, by force of intellect, and by quality of work it was Timothy Holmes.

Holmes's literary work made his name a familiar one to the surgeons of the world during his professional career. During 1860 and the four following years there appeared his "System of Surgery, Theoretical and Practical," an encyclopædia to which treatises were contributed by such recognised masters as Sir John Simon (inflammation), Sir James Paget (wounds, tumours), Sir William Savory (scrofula, collapse), Sir Thomas Longmore (gunshot wounds), Sir Prescott Hewett (injuries of the head), Sir William Jenner (skin diseases), Lord Lister (anæsthetics, amputations), Sir George Humphry and Sir Henry Thompson (diseases of male organs of generation)—to mention a few prominent contributors under the titular style which they later received, together with the subjects on which they wrote. It speaks much for Holmes's rising reputation as surgeon and scholar that he should have been chosen for the general editorship of such a work and should have found such a group of collaborators ready to assist him, for he was not yet assistant surgeon to St. George's Hospital when the scheme of the work was projected. His own contributions to the encyclopædia were the articles upon accidents from burns and lightning; upon dislocations, aneurysm, and diseases of the bone; upon excision of bones and joints; and upon the surgical diseases of childhood, the last being issued as an appendix. The System did not receive an enthusiastic welcome at first; the difficulties of joint-stock production had hardly been anticipated, and the authors found themselves cramped by the fear of repeating what others had said, or of anticipating what others were about to say. The various essays were not all written with identical conscientiousness and the general impression first produced in the surgical world seems to have been one of sympathetic disappointment. But undoubtedly the day had already gone by when it was possible for one author to write a complete system of surgery from his own personal knowledge; and after allowance had been made for the defects that must be inherent in production upon a scheme of collaboration the System was seen to possess a design and an execution which did honour alike to the general editor and his publishers, Messrs. Longmans and Co. It is possible that the comparative youth of the editor did not allow him in the first instance to be as resolute with his contributors as an older man would have been, but if Holmes spared his friends in the course of the issue of the System he certainly did not spare himself. The closing sentence of several long reviews in our columns upon the various volumes of the System as they appeared runs as follows: "Taken as a whole it is the most important surgical work which has ever issued from the English press. It is a great honour to a surgeon, comparatively young as is Mr. Holmes, to have been intrusted with the editing of so great a work; but now that it is completed it is only fair to say that he has executed the difficult task with ability, fidelity, and judgment. His own personal contributions are of a high order and both in choice of authors and arrangement of subjects there seems rarely any fault to find." A second edition of the System appeared ten years later. Sir John Simon's classical article upon inflammation is now supplemented, or rather replaced, by an essay from the pen of Burdon Sanderson, in which the foundations of modern pathology are revealed, while Lister gives a full account of the antiseptic treatment of wounds. Holmes may have learned his surgery too soon and may have entered the physiological laboratory too late ever to have become familiar with the details—chemical, physical, and bacteriological—a knowledge of which such essays implied; but he was far too great an observer and far too great a surgeon, both as scholar and clinician, not to see at once that the science and art of surgery were going to be revised from top to bottom and that the System of Surgery must be altered thoroughly from cover to cover, or must be expected to hold the field only until the new learning had produced a comprehensive literature of its own. The third and last edition of the System appeared in 1883, Mr. J. W. Hulke being most happily associated with Holmes in the editorship. The contributions were now differently arranged, owing to which rather than to compression the material was all included in three volumes. The interval of ten years or more necessitated the re-writing of many of the essays as well as the introduction of new authors, prominent among whom may be mentioned Mr. A. E. Barker, Mr. H. T. Butlin, Sir William Dalby, Mr. Rickman Godlee, Mr. Warrington Haward, Mr. Henry Morris, and Sir Frederick Treves. Holmes himself largely re-wrote his original contributions, and the result was an

admirable exposition of the beliefs and practice of British surgery.

In 1875 he published his well-known "Treatise on the Principles and Practice of Surgery," which, although founded on the "System of Surgery," presented evidence of the personal experience of the author, of his learning as a skilled anatomist, and of his assimilation of the developing doctrines of asepsis. This was the handbook of several generations of medical students in every English-speaking medical school, and indeed has only of recent times been excluded from the list of manuals which it was our custom to recommend for the constitution of a student's library. It was admirably written and illustrated, but not quite as easy reading as it seemed. Holmes's classical culture made it impossible for him not to write clearly, but he was in many places too intellectual for the audience which he supposed himself to be addressing, so that the sequence of events or the force of arguments which appeared clear to him often required more elaboration if they were to be equally clear to the average medical student. The book, however, was a great performance and deservedly enjoyed its popularity. He produced four editions of the work but the fifth edition was left to Mr. T. Pickering Pick, his colleague at St. George's Hospital. Mr. Pick exercised a free hand, for although he preserved the original plan of the book he revised it most carefully, incorporating in it all the recent teaching in surgery and pathology, and especially giving prominence to the innovations in practice and in range of treatment due to the developments of aseptic surgery.

The "Treatise on Surgery" and the articles in the "System of Surgery" comprise most of Holmes's literary work, but the appendix on "The Surgical Treatment of the Diseases of Childhood" was extended in scope and detail until it became an important volume when it was published as a separate work and obtained great success, running through two editions and being translated into French and German. His allotment to himself of this subject when bringing out the System was due to the fact that he had been elected in 1859 assistant surgeon to the Children's Hospital, Great Ormond-street. He became full surgeon to the institution two years later and only severed his connexion in 1868 when he became full surgeon to St. George's Hospital and also dean of the medical school. Holmes was also the editor for several editions of "Gray's Anatomy"; he translated from the German Wagner's work on "The Resection of Bones," and contributed to the Reports of St. George's Hospital. All the productions of his pen possessed the same qualities of culture and thoroughness, as his not infrequent contributions to our columns show.

As a surgeon Holmes came at rather a difficult period, being about 20 years younger than Brodie, ten years younger than Paget, but a whole generation older than, for example, Macewen, Watson Cheyne, and Treves. He recognised the enormous value and significance of the work of his great contemporary, Lord Lister, but it was impossible for him to do more at once. Lister had taught himself, and was instructing the whole scientific world junior to him, but no one could have taught Lister's contemporaries who had left the lecture-room too long to become flexible pupils when the famous work at Glasgow and Edinburgh began to bear results as a complete revolution. Holmes had been brought up in an older school, and though he faced manfully the difficulties of an entirely new technique, and though he was insistent upon the Listerian doctrines in his lectures, he never became a great exponent of the practice of aseptic surgery. He was, however, a bold and fertile operator and records of his work in the two hospitals with which he was connected form a remarkable tribute to his mastery of his science, while he welcomed the teachings of aseptic surgery in the most whole-hearted manner because of the vastly extended scope of operative treatment which it promised. The last paper which he contributed to our columns [1] is a splendid testimony to his foresight as a surgeon, as well as to the long continuance of his skill as an operator and his adaptability towards modern methods. In 1875, in the first edition of the "Treatise on the Principles and Practice of Surgery," he had advocated that the right treatment for rupture of the bladder was abdominal section and the immediate suture of the rent. The teaching was in advance of the day, the leaders of surgery being still unaware of the possibilities opened up to them by aseptic technique, and though it was adopted by the late Mr. C. Heath and Mr. A. Willett, and possibly by one or two others, the results were not satisfactory. But in 1886 Sir William MacCormac recorded in our columns two successful cases of suture of the ruptured bladder after abdominal section, mentioning the fact of Holmes's early advocacy of the procedure; and in the following year Holmes had the gratification of being able to record a successful case under his own care. The details which he published show that he had foreseen in days when the operation was considered to be but a desperate remedy in a desperate plight, the difficulties that would have to be met by the surgeon, and that he recognised, when at last the opportunity came to him, the advantages of the Listerian technique.

As a teacher he possessed virtues which made him a little dreaded though enormously admired by the students at St. George's Hospital for over 30 years. He was clear, forcible, sarcastic, not unkind, but distinctly intolerant of fools. The scholar and the logician in him would forgive slowness if it was redeemed by patience, but he could not abide shallowness and glibness. The student who attending at a test examination had committed to memory from Holmes's own book a list of signs and symptoms would find his complacency rent from him by an inability to answer one or two questions on first principles. He used the same methods during the years when he was an examiner at the Royal College of Surgeons of England, and many are the men who attributed their failure to his alleged severity. As a matter of fact he was not severe, for the well-grounded candidate always had in him a friend. He could not forgive pretence, but he was always quick to mark the man whose knowledge was ahead of his powers of expression.

As a man of affairs Holmes was a great success, his clearness of vision, his personal courage and integrity, and his habit of hard work enabling him to detect the reasons of failure as well as to appreciate the factors of success. His experience of hospital affairs made him an authority upon the numerous practical and social questions which centre round what is known as hospital abuse. Jointly with the late Dr. J. S. Bristowe he was the author of a valuable report on hospitals to the Privy Council (Sixth Annual Report to the Medical Officers of the Privy Council). More than 20 years ago he pointed to the development of provident dispensaries, so that they might form a link between the general practitioner and the out-patient department of hospitals, as the right step to be taken to protect alike the charitable contributions of the well-to-do, the rights of the sick poor, and the position of the professional man. That in such development lies probably the solution of a most difficult problem is now an accepted belief. As treasurer of St. George's Hospital he exercised for more than a decade a close supervision over the work of the institution with which he had been so long connected. He was for 20 years chief surgeon to the Metropolitan police, he filled the distinguished post of President of the Royal Medical and Chirurgical Society, and he sat with advantage to his colleagues upon many committees to consider questions of hospital dispensation.

We have said enough to justify our earlier statement that Timothy Holmes, though of late fallen out of the line of observation, was one of the great figures of Victorian surgery. He was publicly accepted as such. To members of the St. George's Hospital Medical School during the long years of his active work he was always the personification of the great surgeon. His wide reading and extensive and accurate scholarship—for to his attainments as surgeon and anatomist, classic and mathematician, he added a knowledge of French and German—his devotion to his work, his caustic simplicity, his dignified appearance and the mannerisms due to the fact that he had lost the sight of one eye will always dwell in the memory of his pupils. To have been Holmes's house surgeon or Holmes's dresser meant the lifelong recollection of Holmes's characteristics. To have been his colleague was equally to feel his influence, as the following brief communication shows: "By his colleagues," writes "W. H.," "Mr. Holmes will be mourned with affectionate sorrow as one who was ever an example of the highest integrity and the most disinterested generosity. By his juniors he will be remembered with especial gratitude as always ready to help them with his advice and experience and to place at their service his unrivalled knowledge of the literature of his profession. He was, moreover, particularly careful of the

[1] THE LANCET, July 23rd, 1887, p. 153.

TIMOTHY HOLMES, M.A., M.C. CANTAB., F.R.C.S. ENG.,
CONSULTING SURGEON TO ST. GEORGE'S HOSPITAL.

interests of his younger colleagues, furthering their progress, guarding their rights, giving them every opportunity for their advancement, and rejoicing in their success. As one who had the happiness of working with Mr. Holmes for many years both at the Hospital for Sick Children, at St. George's Hospital, and in many other capacities, the writer would say most emphatically that it would be impossible to imagine a more loyal, kind, or generous colleague. His presence at the formal consultations held in the hospital theatre was of the greatest value, his large experience and wonderful memory enabling him to quote with unfailing accuracy whatever was available to throw light upon an obscure or difficult case and to correct (perhaps with gentle and good-natured irony) the errors which some of us may have been in danger of exhibiting. And yet he was always ready to listen to others and to act on their advice. In the medical school, too, he guided us with mature wisdom based upon a liberal outlook; he placed before us with the utmost clearness and impartiality the essentials of a discussion; and would take unlimited pains to surmount a difficulty. At the hospital board his judicial and well-considered advice, communicated in clear and admirably chosen words, always carried great weight with the governors. And then, besides his eminence in literature and science, his extensive reading, his fine scholarship, and his familiarity with modern languages made him a most delightful companion, whose genial and brilliant conversation was a welcome addition to any social gathering." It has fallen to the lot of few surgeons to be enshrined in the hearts of so many followers with respect as well as with affection, and a practical expression of these feelings by St. George's Hospital men may be seen in the admirable portrait of Holmes from Sir William Richmond's brush which hangs in the board-room of the hospital.

Holmes's private life was the quiet and cultured one that might be expected from one who was absorbed in a scientific career and its altruistic developments. He married a lady who was able to be his companion in his intellectual pursuits, Sarah Brooksbank, and to his widow who survives him we tender our respectful sympathy. She has the consolation of knowing that her husband's death will bring a sense of personal loss to hundreds whose names she has never heard.

Our portrait is a reproduction from a photograph taken at the date of Mr. Holmes's retirement from active membership of the staff of the hospital—i.e., some time in 1888, when he was 63 years of age.

ANDREW GRAY, M.D. EDIN.

THE death of Dr. Andrew Gray of St. Helens occurred on August 30th as the result of a cycling accident. Dr. Gray was cycling in the town on August 24th and when passing a tramcar he collided with another cyclist and was thrown with great violence against the kerbstone of the footpath. He was carried to an adjoining surgery in an unconscious state and was afterwards found to be suffering from cerebral hæmorrhage. Despite surgical treatment he succumbed to his injuries on the 30th at the age of 43 years. Dr. Gray received his medical education at the University of Edinburgh, where he graduated as M.A. in 1884 and as M.D. in 1891. He was also a D.P.H. of the Victoria University. He leaves a widow and four children to mourn his untimely end. The funeral, which was largely attended, took place on Sept. 2nd at St. Helens cemetery. Military honours were accorded to the remains, as the late Dr. Gray held the rank of captain and honorary major in the 2nd V.B. South Lancashire Regiment.

CHARLES EDWARD KILKELLY, M.B. DUB., F.R.C.S. IREL., J.P.,

DEPUTY SURGEON-GENERAL, I.M.S.

Deputy Surgeon-General Charles Edward Kilkelly, who died on July 26th at his Dublin residence, 12, Upper Fitzwilliam-street, saw much active service in India during the Mutiny in 1857, and was one of the survivors of that conflict who were invited to attend a levée held by the King at Buckingham Palace in July of the present year. He studied medicine at Trinity College, Dublin, where he graduated as M.B. in 1854, being also admitted F.R.C.S. Irel. in 1855. He received an appointment as surgeon in the East India Company's service in 1856, and was at Delhi on the outbreak of the Mutiny in May, 1857. Narrowly escaping from the massacre of Europeans in that city, he was afterwards attached to Lord Clyde's force which relieved Lucknow. On his retirement from the Indian Medical Service he returned to Ireland, residing sometimes in Dublin but more often at Drimcong, Moycullen, in County Galway, of which county he was a magistrate. The deceased was in his seventy-seventh year. In 1859 he married a daughter of Commissary-General Sir Randolph Routh, and leaves issue. The funeral, which took place in Glasnevin cemetery, Dublin, on July 29th, was largely attended.

ROBERT SAMUELS ARCHER, M.D. DUB.

THE news of the death of Dr. R. S. Archer of St. Domingo Grove, Liverpool, on August 8th in the fifty-eighth year of his age was received by the deceased's numerous friends with great regret. He had been in failing health for some time but the end came with remarkable suddenness. Dr. Archer received his medical education at Trinity College, Dublin, where he graduated B.A. in 1870, M.Ch. and M.B. in 1872, and M.D. in 1887. He was for many years physician to the Liverpool City Hospital at Priory-road, and for upwards of 16 years medical officer to the northern division of the Liverpool post-office. He was public vaccinator of one of the Everton districts and had a very large experience in the treatment of small-pox, of which he attended over 2000 cases in the epidemics in 1901–02. His evidence before the Royal Commission was the outcome of that experience and proved of great value. He frequently contributed papers to the medical press and one on the treatment of small-pox may be specially mentioned as being of wide import. He also contributed articles on vaccination, of which he had a very large experience. He was instrumental in organising the annual dinner of the Association of Dublin Graduates in Lancashire and Cheshire some years ago, was the honorary general secretary of the Liverpool Medical Institution in 1889, and was also a vice-president of that society. He leaves a widow and one son.

HENRY MURNEY, M.D. EDIN., M.R.C.S. ENG., J.P.

Dr. Henry Murney, who died suddenly from heart failure, at the advanced age of 82 years, at his residence, Tudor House, Holywood, co. Down, on August 25th, was little known to the present members of the medical profession in Belfast, but at one time he occupied a very prominent position. The deceased, who was a son of the late Henry Murney, J.P., of Belfast, studied in Edinburgh, London, and Dublin, and graduated M D. of Edinburgh about 1849, and he was also M.R.C.S. Eng. Starting practice in Belfast he was demonstrator of anatomy under Dr. Hugh Carlisle, the first professor of anatomy in Queen's College, Belfast, and when the latter died Dr. Murney became a candidate for the chair, when Dr. Peter Redfern was appointed. In 1854 Dr. Murney was elected surgeon to the Belfast General Hospital (now the Royal Victoria Hospital), and for many years—up to 1886, when he resigned—he enjoyed an extensive surgical practice. He was president of the Ulster Medical Society in 1871–72. He was a well-known yachtsman and Freemason and a justice of the peace for Belfast and for county Antrim. Broad-minded and liberal in all his dealings he was held in high esteem by his professional brethren and by the public. His aged sister, with whom he lived (Dr. Murney was unmarried), died on August 25th and the news of her death so affected him that he passed away on the same afternoon.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. Eduard Hitzig, who retired from the chair of psychiatry in the University of Halle about 14 years ago, since which time he has been living in retirement. His student days were passed in Berlin and Würzburg. After taking his doctor's degree in 1862 he practised in Berlin until his appointment as professor of mental diseases in Zürich in 1875. He only remained there for about four years, being then offered the chair of psychiatry in the University of Halle, together with the directorate of the lunatic asylum in Nietleben. He immediately set about establishing a university clinic for mental and nervous disease, this being the first clinic of the kind in any Prussian university. After a time a special building was erected for it in accordance with Professor Hitzig's own designs. His researches on the physiology and pathology of the brain are

of world-wide reputation.—Dr. William Thomson, formerly professor of ophthalmology in the Jefferson Medical College, Philadelphia.—Dr. William Howard, formerly professor of gynæcology and children's diseases in the University of Maryland, Baltimore.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—At examinations held in August the following candidates passed in the subjects indicated:—

Surgery.—H. W. B. Danaher (Section I.), London Hospital; C. L. Driscoll (Sections I. and II.) Charing Cross Hospital; and B. S. Matthews (Section I.), Royal Free Hospital.
Medicine.—T. T. Apsimon (Sections I. and II.), Liverpool; E. V. Connellan (Section II.), Bristol; M. F. Emrys-Jones (Section I.), Cambridge and Manchester; B. S. Matthews (Section I.), Royal Free Hospital; A. F. Reardon (Section II.), St. Thomas's Hospital; and E. E. Wilbe, St. Bartholomew's Hospital.
Forensic Medicine.—T. T. Apsimon, Liverpool; M. F. Emrys-Jones, Cambridge and Manchester; B. S. Matthews, Royal Free Hospital; H. W. Phillips, Manchester; M. Rathbone, Royal Free Hospital; E. E. Wilbe, St. Bartholomew's Hospital; and G. F. Wilson, London Hospital.
Midwifery.—J. A. Byrne, Manchester; C. L. Driscoll, Charing Cross Hospital; G. W. Hassall, Birmingham; and E. E. Wilbe, St. Bartholomew's Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—C. L. Driscoll and E. E. Wilbe.

FOREIGN UNIVERSITY INTELLIGENCE.—*Alabama* (*Medical College*): Dr. William Salant of New York has been appointed Assistant Professor of Physiological Chemistry and Pharmacology.—*Bologna*: Dr. Carlo Vignolo-Lutati has been recognised as *privat-docent* of Dermatology and Dr. Ugo Biffi Gentili as *privat-docent* of Experimental Hygiene.—*Budapest*: Dr. Paul Hari has been recognised as *privat-docent* of Pathological Chemistry.—*Chicago* (*Rush Medical College*): Dr. William H. Wilder has been appointed Professor of Ophthalmology in succession to Dr. F. C. Hotz who retires.—*Greifswald*: Dr. Rudolf Haecker has been recognised as *privat-docent* of Surgery.—*New Haven* (*College of Physicians and Surgeons*): Dr. F. Huber has been appointed Professor of Medicine and Dr. Peterson Professor of Psychiatry.—*New York* (*College of Physicians and Surgeons*): Dr. Andrew McCosh has been appointed Professor of Surgery.—*Ohio* (*Medical College*): Dr. E. Otis Smith has been appointed Professor of Genito-Urinary Diseases in succession to Dr. Evans who retires.—*Philadelphia* (*Medico-Surgical College*): Dr. Theodore H. Weisenburg has been appointed Professor of Neurology and Psychiatry in succession to the late Dr. W. Pickett.—*Toronto*: Dr. J. P. McMurrick of the Ann Arbor University has been appointed Professor of Anatomy in succession to Dr. Primrose who retires.—*Tübingen*: Dr. Ottfried Müller has been appointed Extraordinary Professor of Medicine in succession to the late Dr. von Jürgensen.—*Vienna*: Dr. C. F. Grosz been recognised as *privat docent* of Dermatology.—*Würzburg*: Dr. Alexander Schmincke has been recognised as *privat-docent* of General Pathology and Pathological Anatomy.

KINGSWOOD (NEAR BRISTOL) DRAINAGE SCHEME.—A Local Government Board inquiry was held at Kingswood on Sept. 4th into the application of the local council to borrow £10,000 for the purpose of the Warmley section of the Kingswood drainage scheme.

RUSSIAN MEDICAL PRACTITIONERS AND THE POLICE.—A notice has been published at Tchernigoff by the governor requiring medical men to notify to the police any cases of wounds from firearms or other weapons that may come under their care, and likewise to furnish the police with the names and addresses of such people as may be accommodating these patients. The penalty for disobedience to these requirements is a fine of £50 or three months' imprisonment.

MANSLAUGHTER IN AN ASYLUM.—At an inquest held on Sept. 6th respecting the death of an inmate, aged 70 years, of the Wonford Asylum, near Exeter, a verdict of "manslaughter" was returned against another patient of the institution. The patients were dining and whilst the attendant's back was turned the prisoner, it is alleged, inflicted a wound on the cheek of the man with a dinner knife, causing injuries which subsequently proved fatal. It is stated that the two men had dined together for years and always appeared to be on friendly terms.

MEDICAL MAGISTRATE.—Mr. Jerome Eugene O'Sullivan, L.R.C.P., L.R.C.S. Edin., has been placed on the commission of the peace for the city of Liverpool.

TOTNES WORKHOUSE INFIRMARY.—At a meeting of the Totnes (Devon) board of guardians held on August 30th a tender for the erection of the workhouse infirmary for £7164 was accepted.

DISEASED CATTLE.—The Local Government Board has issued a circular to local authorities stating that it has had under consideration various representations with respect to the sale for human food of diseased cattle and especially of cows suffering from tuberculosis or other wasting disease. The Board understands that it is the practice of some dealers, though aware of the diseased condition of animals coming into their hands, so to dispose of them or of their carcasses, that there is risk that they will be used as food for the poorer classes in London and other large towns. The Board has reason to believe that the practice in question obtains to a considerable extent; and accordingly it is desirous of drawing the attention of local authorities to the matter, in order that they may as far as possible exercise supervision over the cattle in their districts with a view to anticipating, and so averting, possible or intended infringement of the law. With this object the local authority should instruct such of its officers as are engaged in administering the provisions of the Dairies, Cowsheds, and Milkshops Orders, to observe particularly the condition of the cows which come under its notice, and, where any animal is clearly diseased and presumably unfit for food, to take such steps as are practicable to insure that, in the event of the animal being slaughtered, the carcass is disposed of properly. The Board also suggests that the sanitary or other suitable officers of the local authority should be instructed to watch closely the cattle-markets, slaughter-houses, and knackers' yards in the district, with the view of satisfying themselves that no animal, the condition of which appears to render it unfit for human consumption, is disposed of in such a manner that it is likely to be used for this purpose.

BOOKS, ETC., RECEIVED.

APPLETON, SIDNEY, 25, Bedford-street, Covent Garden, London, W.C.

Modern Clinical Medicine. Diseases of the Digestive System. Edited by Frank Billings, M.D., Professor of Medicine, University of Chicago and Professor of Medicine and Dean of Faculty, Rush Medical College. An Authorized Translation from "Die Deutsche Klinik," under the General Editorial Supervision of Julius L. Salinger, M.D. Price 25s. net.

ARROWSMITH, J. W., Quay-street, Bristol.

University College, Bristol. Calendar for the Session, 1907-1908. Price not stated.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta street, Covent Garden, London, W.C.

Nature's Hygiene and Sanitary Chemistry: containing also a Special Account of the Chemical and Hygienic Characters of Eucalyptus, Pine and Camphor Forests, and some Industries connected therewith. By C. T. Kingzett, F.I.C., F.C.S., Past Vice-President, Society of Public Analysts; Hon. Member, Société Française d'Hygiène. Fifth edition. Price 7s. 6d. net.

Sea-Sickness, its True Cause and Cure. By H. Norman Barnett, F.R.C.S., Surgeon, Cripples' Home, Belfast; late Surgeon, Peninsular and Oriental and Orient Mail Services. Price 1s. 6d.

Trypanosomes and Trypanosomiases. By A. Laveran, Membre de l'Institut, et de l'Académie de Médecine, Paris; and F. Mesnil, Chef de Laboratoire à l'Institut Pasteur. Translated and much enlarged by David Nabarro, M.D., B.Sc., D.P.H. Lond., M.R.C.P. Lond., Assistant Professor of Pathology and Bacteriology, University College London; Scientific Assistant in Pathology at the University of London; Royal Society Commissioner for the Study of Sleeping Sickness in Uganda, 1903. Price 21s. net.

BROWN, A., AND SONS, LIMITED, 5, Farringdon Avenue, London, E.C., and at Hull and York.

Modern Methods for Securing Surgical Asepsis. Notes for Surgeons and Nurses. By Edward Harrison, M.A., M.D., F.R.C.S., Hon. Surgeon, Hull Royal Infirmary. Price not stated.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, London, W.C.

Medical Ethics: A Guide to Professional Conduct. By Robert Saundby, M.D. Edin., Hon. LL.D., McGill; Hon. M.Sc., Birm.; Fellow of the Roy. Coll. of Phys. of Lond.; Member of the General Medical Council; Vice-Pres., late Pres., of the Council of the Brit. Med. Assoc.; Emeritus Sen. Pres., of the Roy. Med. Soc.,

Fellow of the Roy. Med. and Chir. Soc.; Member of the Pathol. Soc. of London, Professor of Medicine in the University of Birmingham. Second edition, enlarged and rewritten. Price 7s. 6d. net.

A Surgical Handbook: For the Use of Students, Practitioners, House-Surgeons, and Dressers. By Francis M. Caird, M.B., F.R.C.S.Ed., Surgeon, Royal Infirmary, Edinburgh, and Charles W. Cathcart, M.B., F.R.C.S. Eng. and Ed., Surgeon, Royal Infirmary, Edinburgh. Fourteenth edition. Price 8s. 6d.

HOTEL AND GENERAL ADVERTISING COMPANY, LIMITED, 239-241, Shaftesbury-avenue (Bloomsbury), London.

The Handy Hotel Guide (late "The Tariff Frame Hotel Guide.") Twelfth Edition. Price 2d.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, London.

Proceedings of the Conference on the Teaching of Hygiene and Temperance in the Universities and Schools of the British Empire, held at the Examination Hall, Victoria Embankment, London, S.W. Chairmen: Lord Strathcona, G.C.M.G., Sir John Cockburn, K.C.M.G., and Sir John Gorst, F.R.S., K.C., M.P. Price 2s. net.

JOHN L. MURRAY PUBLISHING CO., Trenton, N.J., U.S.A.

Thirtieth Annual Report of the Board of Health of the State of New Jersey, 1906, and Annual Report of the Bureau of Vital Statistics. Price not stated.

LAURIE, T. WERNER, 13, Clifford's Inn, Fleet-street, London, E.C.

The Russian Peasant. By Howard P. Kennard, M.D. Price 6s. net.

LEHMANN, J. F., München.

Alte und Neue Gynaekologie. Herrn Geheimrat Professor Dr. Franz Ritter von Winckel. Zur Feier seines 70. Geburtsfestes überreicht von den Aerzten der Kgl. Gynaekologischen Universitäts-Poliklinik im Reisingerianum zu München. Herausgegeben unter Mitwirkung von Dr. E. Aulhorn, Dr. R. Benndorf, Dr. H. Eltze, Dr. M. Kachel, Dr. Th. Petri, Prof. Dr. Sakurai und Dr. A. Stoecker, von Professor Dr. Gustav Klein, Vorstand der Kgl. Gynaekologischen Universitäts-Poliklinik. Price M.12; geb., M.15.

Lehmann's Medizin. Handatlanten. Band XXXVI. Grundriss und Atlas der Speziellen Chirurgie. Von Prof. Dr. Georg Sultan. I. Teil. Price M.16.

Vorlesungen über Magen- und Darmkrankheiten. Von Hofrat Dr. Friedrich Crämer. 3. Heft. Die Einwirkung der Genussmittel auf den Menschlichen Organismus, speziell auf die Verdauungs-Organe. I. Tabak, Kaffee und Tee und Verdauung. II. Alkohol und Verdauung. Von. Hofrat Dr. Friedrich Crämer. Price M.4.

LEWIS, H. K., 136, Gower-street, London, W.C.

A System of Radiography with an Atlas of the Normal. By W. Ironside Bruce, M.D., Physician to the X Ray and Electrical Departments, Charing Cross Hospital, Hon. Radiographer to the Hospital for Sick Children, Great Ormond-street. Price 15s. net.

NISBET, JAMES AND CO., LIMITED, 22, Berners-street, London, W.

Reminiscences. By George Saunders, C.B., M.D., Dep.-Insp.-Gen. of Hospitals. Price 1s. net.

REBMAN, LIMITED, 129, Shaftesbury-avenue, London, W.C.

Lateral Curvature of the Spine and Round Shoulders. By Robert W. Lovett, M.D., Boston, Associate Surgeon to the Children's Hospital, Boston; Surgeon to the Infants' Hospital; Instructor in Orthopedic Surgery, Harvard Medical School. Price not stated.

W. B. SAUNDERS COMPANY, Philadelphia and London.

Nervous and Mental Diseases. By Archibald Church, M.D., Professor of Nervous and Mental Diseases and Medical Jurisprudence in the North-western University Medical School (the Chicago Medical College), Chicago, and Frederick Peterson, M.D., President of the State Commission in Lunacy, New York; Clinical Professor of Neurology and Psychiatry, Columbia University; Consulting Alienist, Bellevue Hospital. Fifth edition, thoroughly revised. Price 21s. net.

Surgical Diagnosis. By Daniel N. Eisendrath, A.B., M.D., Adjunct Professor of Surgery in the Medical Department of the University of Illinois (College of Physicians and Surgeons); Attending Surgeon to the Michael Reese and Cook County Hospitals, Chicago. Price 28s. net.

Treatment of the Diseases of Children. By Charles Gilmore Kerley, M.D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital. Price 21s. net.

A Text-book upon the Pathogenic Bacteria for Students of Medicine and Physicians. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology in the Medico-Chirurgical College, Philadelphia; Pathologist to the Philadelphia Hospital and to the Medico-Chirurgical Hospital, Philadelphia. Fifth edition, thoroughly revised. Price 15s. net.

Diseases of the Inteatines and Peritoneum. By Prof. Dr. Hermann Nothnagel, late Professor of Special Pathology and Therapy, University of Vienna. Edited, with additions, by H. D. Rolleston, M.A., M.D., F.R.C.P., Physician to St. George's Hospital, and to the Victoria Hospital for Children, London. Second edition, thoroughly revised. Authorised translation from the German, under the Editorial Supervision of Alfred Stengel, M.D., Professor of Clinical Medicine in the University of Pennsylvania. Price 21s. net.

Practical Fever Nursing. By Edward C. Register, M.D., Professor of the Practice of Medicine in the North Carolina Medical College; Chief Physician to St. Peter's Hospital; Editor of the Charlotte Medical Journal. Price 12s. net.

A Laboratory Manual of Invertebrate Zoölogy. By Gilman A. Drew, Ph.D., Professor of Biology at the University of Maine; in Charge of Zoölogical Instruction at the Marine Biological Laboratory, Woods Holl, Massachusetts. With the Aid of Members of the Zoölogical Staff of Instructors of the Marine Biological Laboratory, Woods Holl, Mass. Price 5s. net.

A Manual of the Diagnosis and Treatment of the Diseases of the Eye. By Edward Jackson, A.M., M.D., Professor of Ophthalmology in the University of Colorado; Emeritus Professor of Diseases of the Eye in the Philadelphia Polyclinic. Second edition, thoroughly revised. Price 10s. 6d. net.

A Manual of Diseases of the Nose, Throat, and Ear. By E. B. Gleason, M.D., LL.D., Clinical Professor of Otology in the Medico-Chirurgical College; Aurist to the Medico-Chirurgical Hospital; Surgeon-in-Charge of the Nose, Throat, and Ear Department of the Northern Dispensary; Formerly one of the Laryngologists to the Philadelphia Hospital. Price 12s. net.

A Text-book of Histology, including Microscopic Technic. By A. A. Böhm, M.D., and M. von Davidoff, M.D., of the Anatomical Institute in Munich. Edited, with Extensive Additions to both Text and Illustrations, by G. Carl Huber, M.D., Professor of Histology and Embryology and Director of the Histological Laboratory, University of Michigan. Second edition, thoroughly revised and enlarged. Price 15s. net.

SURGERY PUBLISHING COMPANY, 92, William-street, New York, U.S.A.

500 Surgical Suggestions. Practical Brevities in Diagnosis and Treatment. By Walter M. Brickner, B.S., M.D., Chief of Surgical Department, Mount Sinai Hospital Dispensary; Editor-in-Chief, American Journal of Surgery, New York; and Eli Moschcowitz, A.B., M.D., Assistant Physician, Mount Sinai Hospital Dispensary; Associate Editor, American Journal of Surgery, New York. Second series. Price $1.00.

TAYLOR AND FRANCIS, Red Lion-court, Fleet-street, London, E.C.

Catalogue of the Specimens illustrating the Osteology and Dentition of Vertebrated Animals, Recent and Extinct, contained in the Museum of the Royal College of Surgeons of England. By William Henry Flower, Conservator of the Museum. Part I. Man: Homo sapiens, Linn. Second edition. Price not stated.

Descriptive and Illustrated Catalogue of the Physiological Series of Comparative Anatomy contained in the Museum of the Royal College of Surgeons of England. Vol. III. Second edition. Price not stated.

THE YEAR BOOK PUBLISHERS, Chicago, U.S.A. (G. GILLIES AND CO. 28, Gibson-street, Hillhead, Glasgow.)

The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D. Vol. IV. Gynecology. Edited by Emilius C. Dudley, A.M., M.D., Professor of Gynecology, North Western University Medical School; Gynecologist to St. Luke's and Wesley Hospitals, Chicago; and C. von Bachellé, M.S., M.D., Gynecologist to the German Hospital, Chicago. Series 1907. Price 5s. net.

Vol. V. Obstetrics. Edited by Joseph B. De Lee. A.M., M.D., Professor of Obstetrics, North-western University Medical School. With the Collaboration of Henry D. Roehler, M.D., and Herbert M. Stowe, M.D. Series 1907. Price 5s. net.

TREAT, E. B. AND CO., 241-243, West 23rd-street, New York.

Transactions of the American Pediatric Society. Eighteenth Session. Held at Hotel Traymore, Atlantic City, N.J., May 30, 31, and June 1, 1906. Edited by Linnæus Edford La Fétra, M.D. Volume XVIII. Reprinted from Archives of Pediatrics, 1906-1907. Price not stated.

WRIGHT, JOHN, AND CO., LIMITED, London. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

Consumption: Treatment at Home and Rules for Living. By H. Warren Crowe, M.D. Oxon. Price 1s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.*

BERRY, JOSEPH FOREMAN, M.B., Ch.B. St. And., L.R.C.P. & S. Edin., has been appointed Assistant Medical Officer of Health of the County Borough of Wigan.

BINGHAM, R. G., M.R.C.S., L.R.C.P., has received a Resident Appointment in the Throat Department at St. Thomas's Hospital.

BRISTOW, W. R., M.R.C.S., L.R.C.P., has been appointed a House Surgeon to Out-Patients at St. Thomas's Hospital.

BURGESS, A. S., M.R.C.S., L.R.C.P., has been appointed Senior Ophthalmic House Surgeon at St. Thomas's Hospital.

CARLETON, H. H., M.B., B.Ch. Oxon., has been appointed a House Surgeon to Out-Patients at St. Thomas's Hospital.

COOKE, A. I., B.C. Cantab., has been appointed Junior Ophthalmic House Surgeon at St. Thomas's Hospital.

DAWES, H. E. T., M.R.C.S., L.R.C.P., has been appointed a House Surgeon to Out-Patients at St. Thomas's Hospital.

DRAKE, A. W. C., M.R.C.S., L.R.C.P., has received a Resident Appointment in the Throat Department at St. Thomas's Hospital.

HEWETT, F. S., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed Senior Obstetric House Physician at St. Thomas's Hospital.

HUGGINS, G. M., M.R.C.S., L.R.C.P., has been appointed a Resident House Surgeon at St. Thomas's Hospital.

JACK, W. A. MORTON, M.R.C.S., L.R.C.P., has received a Resident Appointment in the Children's Surgical Department at St. Thomas's Hospital.

MCWALTER, J. C., M.D. Brux., M.A., F.F.P.S. Glasg., D.P.H., Barrister-at-law, has been appointed Examiner in Medical Jurisprudence to the Apothecaries' Hall of Ireland.

NEILD, F. M., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed a Resident House Surgeon at St. Thomas's Hospital.

NIGHTINGALE, H. J., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed a Resident House Surgeon at St. Thomas's Hospital.

PALMER, F. W. MORTON, M.B., B.C. Cantab., has been appointed Ophthalmic Surgeon to the Teignmouth Hospital.

PATEY, W., M.R.C.S., L.R.C.P., has received a Resident Appointment in the Ear Department at St. Thomas's Hospital.

PHIPPEN, HARRY G., M.R.C.S. Eng., L.R.C.P. Lond., has been appointed Assistant Medical Officer at the Western Hospital, Fulham, London, S.W.

SPARROW, E. C., M.R.C.S., L.R.C.P., has received a Resident Appointment in the Skin Department at St. Thomas's Hospital.

TODD, R. E., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed a House Surgeon to Out-Patients at St. Thomas's Hospital.

UNWIN, H. R., M.B., B.C. Cantab., M.R.C.S., L.R.C.P., has been appointed a Resident House Surgeon at St. Thomas's Hospital.

VERDON, W. H. G., M.R.C.S., L.R.C.P., has received a Resident Appointment in the Ear Department at St. Thomas's Hospital.

WHITEHOUSE, H. B., M.B., B.S. Lond., M.R.C.S., L.R.C.P., has been appointed Junior Obstetric House Physician at St. Thomas's Hospital.

WINDSOR, J. F., M.R.C.S., L.R.C.P., has received a Resident Appointment in the Skin Department at St. Thomas's Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIRKENHEAD BOROUGH HOSPITAL.—Junior Resident House Surgeon. Salary £80 and fees.

BIRMINGHAM GENERAL HOSPITAL.—Two Receiving-room Officers. Salary £150 per annum.

BIRMINGHAM, QUEEN'S HOSPITAL.—House Surgeon for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

BRENTFORD UNION WORKHOUSE AND SCHOOLS, Isleworth, W.—Second Assistant Medical Officer, unmarried. Salary £125 per annum, with lunch and tea.

BRIDGE OF WEIR.—Assistant Resident Medical Officer (Lady) for Consumption Sanatoria.

BRIGHTON, ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN, Dyke-road.—House Surgeon. Salary at rate of £80 a year, with board, lodging, and washing.

BRISTOL ROYAL INFIRMARY.—Resident Casualty Officer for six months. Salary at rate of £50 per annum, with board, lodging, and washing.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Gray's Inn-road, W.C.—House Surgeon. Salary at rate of £50 per annum, with board and residence.

CHELSEA INFIRMARY, Cale-street, S.W.—Second Assistant Medical Officer. Salary £90, rising to £100 a year, with board, apartments, washing, coal, gas, &c.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria Park, E.—Pathologist. Salary 100 guineas per annum. Also Two House Physicians for six months. Salary at rate of £50 per annum, with board, washing, and residence. Also Clinical Assistant. Also Locum Tenens House Physician.

DORCHESTER. DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £100, with board and lodging.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark Bridge-road, S.E.—Clinical Assistants.

FARRINGDON GENERAL DISPENSARY, 17, Bartlett's Buildings, Holborn Circus, E.C.—Resident Medical Officer. Salary £120 per annum, with apartments, coal, gas, and attendance. Also Honorary Dental Surgeon.

GLASGOW UNIVERSITY.—Examinerships in Natural Philosophy (salary £70), Chemistry (salary £50), Botany (salary £50), Anatomy (salary £80), Medical Jurisprudence (salary £50), Medicine (salary £80), Surgery (salary £80), and Midwifery (salary £50); with hotel and travelling expenses in each case. Also Junior Assistant in Physiological Department.

GRAVESEND HOSPITAL.—House Surgeon. Salary £100 per annum, with board and residence.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway.—Senior House Surgeon, Senior House Physician, Two Junior House Surgeons, and One Junior House Physician. Salary of Senior Officers at rate of £60 per annum and of Junior Officers at rate of £30 per annum, with board, lodging, and washing.

JERSEY DISPENSARY.—Resident Medical Officer. Salary £120, with furnished quarters and attendance.

KING'S LYNN, WEST NORFOLK AND LYNN HOSPITAL.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Salary £30, with board and lodging.

LONDON LOCK HOSPITAL AND RESCUE HOME, Harrow-road, W.—Honorary Dental Surgeon.

LONDON LOCK HOSPITAL, Dean-street, W.—Anæsthetist.

LONDON TEMPERANCE HOSPITAL, Hampstead-road, N.W.—Resident Medical Officer. Salary £120 per annum, with board, lodging, and washing.

MANCHESTER CHORLTON UNION WORKHOUSE HOSPITALS, Withington.—Senior Resident Medical Officer. Salary £100 per annum, with rations, apartments, and attendance.

MANCHESTER. CHORLTON-UPON-MEDLOCK DISPENSARY.—Honorary Medical Officer.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN, Park-place, Cheetham Hill-road.—House Surgeon. Salary £80 per annum, with apartments and board.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Hampstead.—Junior Resident Medical Officer. Salary £50 per annum, with board, lodging, &c.

NEWCASTLE-UPON-TYNE, CITY HOSPITAL FOR INFECTIOUS DISEASES.—Resident Medical Assistant. Salary £104 per annum, with board, lodging, &c.

NEWCASTLE-UPON-TYNE, UNIVERSITY OF DURHAM COLLEGE OF MEDICINE.—Demonstrator of Physiology. Salary £200 per annum.

NORWICH CITY ASYLUM, Hellesdon-next-Norwich.—Resident Medical Superintendent. Salary £400 per annum, rising to £600, with furnished residence, fuel, light, rates, washing, &c.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—House Physician for six months. Salary at rate of £50 per annum, with board, residence, and washing.

ROYAL DENTAL HOSPITAL. Leicester-square.—Morning House Anæsthetist. Honorarium £50 per annum.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with board, lodging, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary at rate of £100 a year, with board and residence.

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL.—Honorary Dental Surgeon. Also Honorary Assistant Anæsthetist.

SALFORD UNION INFIRMARY, Hope, Pendleton.—Resident Medical Officer. Salary £130 per annum, with apartments and attendance.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone-road, N.W.—Clinical Assistants.

SHEFFIELD ROYAL HOSPITAL.—Assistant House Physician, unmarried. Salary £50 per annum, with board, lodging, and washing.

SHEFFIELD UNION HOSPITAL.—Resident Assistant Medical Officer. Salary £80 per annum, with apartments, rations, and allowances.

STAFFORD, STAFFORDSHIRE GENERAL INFIRMARY.—Assistant House Surgeon. Salary £82 per annum, with board, residence, and laundry.

THROAT HOSPITAL, Golden-square, W.—Senior Clinical Assistants.

TUNBRIDGE WELLS, GENERAL HOSPITAL.—House Surgeon, unmarried. Salary £100 per annum, with board, apartments, gas, firing, and attendance.

WARRINGTON, LANCASHIRE COUNTY ASYLUM, Winwick.—Locum Tenens Medical Officer, unmarried. Salary 4 guineas per week, with apartments, board, attendance, and washing.

Births, Marriages, and Deaths.

BIRTHS.

AKERS.—On Sept. 7th, at Hove, the wife of W. Dutton Akers, L.R.C.P. Lond., M.R.C.S. Eng., L.S.A., of a son.

CORFIELD.—On Sept. 4th, at Upper Tooting, the wife of Edward Carruthers Corfield, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

HARTIGAN.—On Sept. 4th, at Gloucester-terrace, Hyde Park, W., the wife of Dr. Thomas Hartigan, of a son.

LETT.—On Sept. 4th, at 48, Queen Anne-street, W., the wife of Hugh Lett, M.B., F.R.C.S., of a daughter.

MACEVOY.—On Sept. 11th, 1907, at 41, Buckley-road, Brondesbury, N.W., the wife of H. J. Macevoy, M.D., B.Sc. Lond., of a son.

NAISH.—On August 29th, at Upton-on-Severn, the wife of Dr. W. V. Naish, of a daughter.

NUNNELEY.—On Sept. 2nd, at Elstree, the wife of Frederick Pitcairn Nunneley, M.D., of a daughter.

ROUTCH.—On Sept. 3rd, at Tunbridge Wells, the wife of Dr. Frederick Routch, of a daughter.

WALKER.—At 19, Atholl-crescent, Edinburgh, on Sept. 9th, the wife of Dr. Sydney R. Walker, of a son.

MARRIAGES.

DANIEL—BAPTY.—On Sept. 5th, at Epsom Parish Church, Alfred Wilson Daniel, M.D., son of the late Dr. W. C. Daniel, of The Silver Birches, Epsom, to Lena Gertrude Lucie Lee Bapty, daughter of Samuel Lee Bapty, of Birmingham.

GAITSKELL—WILD.—On Sept. 5th, at St. Margaret's, Westminster, Charles Edward Gaitskell, M.R.C.S., L.R.C.P., to Ethel Linda, daughter of Robert Wild.

GARDNER—WARREN.—On Sept. 10th, at the Parish Church, Caterham, by the Rev. F. T. Gardner, M.A. (brother of the bridegroom), Rector of Goldhanger, Essex, William Gardner, of Nunney, near Frome, son of the late Thomas Gardner, of Woodcote Manor, Chaddesley Corbett, and Mary Letitia, daughter of the late James Warren, of Capel House, Waltham Cross, and granddaughter of the late John Shepard, of Sylva House, Caterham.

SMITH—HAMPSON.—On Sept. 4th, at St. James's Church, Southport, Dr. Herbert Austen Smith to Constance Hampson, daughter of Mr. and Mrs. Hampson.

DEATHS.

CLARK.—On Sept. 4th, at Dorking, Charles MacKinnon Clark, M.D., L.R.C.P., M.R.C.S., aged 42 years.

DYSON.—On Sept. 3rd, at the Presidency Hospital, Calcutta, Lieutenant-Colonel H. J. Dyson, F.R.C.S., I.M.S., aged 47 years.

HAMILTON.—On August 4th, at Melbourne, Victoria, Caroline Ring, beloved wife of Henry Talbot Hamilton, M.B., B.S., and youngest daughter of the late Francis Workman, M.R.C.S., formerly of Reading.

HIRST.—On August 31st, at Westfield-terrace, Chapel-Allerton, Leeds, aged 29, Walter C. Hirst, M.B. Lond.

HOLMES.—On Sept. 8th, at Sussex-place, Hyde Park, W., Timothy Holmes, F.R.C.S., aged 82 years.

LOGAN.—At Ravenswood, South Drive, Harrogate, on Sept. 4th, Thomas Logan, M.D., late of Wibsey, Bradford. Friends will please accept this intimation.

WESTCOTT.—On Sept. 6th, at Whitmead, near Farnham, Edmund William Martyn Westcott, M.R.C.S. and L.R.C.P., late Surgeon to River Nile Steamship *Amasis*.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

THE USE OF COCAINE IN THE MORPHIA HABIT—A WARNING.

To the Editors of THE LANCET.

SIRS,—During the past six months I have had several morphia habitués under my care who, on the advice of medical men, have taken cocaine with a view to curing themselves of the morphia habit. It cannot be too widely recognised that it is not only useless, but in the highest degree dangerous, to prescribe cocaine in these cases; it is true that cocaine does to a certain extent neutralise the effect of morphia, but this, in point of fact, is a disadvantage rather than a gain, as it merely tempts the patient to take larger doses of morphia and then balance the excess with a heavy dose of cocaine.

But the principal danger lies in the fact that such treatment inevitably produces the cocaine habit, by the side of which the morphia habit is comparatively insignificant: uncomplicated chronic morphinism is usually curable, but when patients begin to take cocaine also the difficulties of the situation are increased a hundred-fold. Not only is their immediate condition rendered worse by the advent of delusions and hallucinations but their chance of ultimate cure is very much lessened and relapses are much more common than in cases of simple morphinism.

The sudden withdrawal of cocaine leads to no actual distress or reflex disturbances such as occur in the case of morphia, and when once patients know this they are very apt to return to the cocaine, reassuring themselves meanwhile with the idea that they can break it off at any time without acute suffering. In a fairly large experience of morphia cases I have never seen a single cure expedited by the use of cocaine and its dangers are so great as to make its recommendation quite unjustifiable.

I am, Sirs, yours faithfully,

Harley-street, W., August, 1907. J. HENRY CHALDECOTT.

RAPID TRANSPORT IN THE EIGHTEENTH CENTURY.

To the Editors of THE LANCET.

SIRS,—It may interest your readers, those in the profession, to feel that with the motor-car they have what was longed for 150 years ago. Let me extract from "Tristram Shandy":—"Because," continued my uncle Toby, "the celebrated sailing chariot which belonged to Prince Maurice, and was of such wonderful contrivance and velocity as to carry half a dozen people 30 German miles in I don't know how few minutes, was invented by Stevinus, the great mathematician and engineer." ..... "But pray, Dr. Slop," quoth my father, "upon what principles was this self-same chariot set a-going?" "Upon very pretty principles, to be sure," replied Dr. Slop, "and I have often wondered why none of our gentry, who live upon large plains like this of ours (especially they whose wives are not past child bearing) attempt nothing of this kind; for it would not only be infinitely expeditious upon sudden calls, to which the sex is subject—if the wind only served—but would be excellent good husbandry to make use of the winds, which cost nothing, and which eat nothing, rather than horses, which (the devil take 'em) both cost and eat a great deal." So we see that Laurence Sterne had prophetic ideas, like as where he writes that he would turn all people who from the country came with their wives and families to London back like vagrants to their legal settlements. Now we are overcrowded, and where and how will it end?

I am, Sirs, yours faithfully,

Woodford, Sept. 7th, 1907. EDWIN LITCHFIELD.

THE JAPANESE BATH.

ACCORDING to a well-written, and equally well-illustrated, paper in the *Journal of the Royal Army Medical Corps* for July by Major K. Bruce Barnett, entitled "Baths and Bathing in Japan," the Japanese, in their persons and houses, are the cleanest people in the world, and every man, woman, and child, of high or low degree, has a daily hot bath. The bathing habit is universal and dates back to the days of mythology, the baths being taken at a temperature which is perfectly astonishing to people who are only acquainted with the tepid water of Europe and America. There are many public baths in Japan, but nearly every private house has one, either in the house itself or adjacent to it. The ordinary bath consists of a large wooden tub, oval in shape, and fitted with a cover. At one end it is traversed by a copper tube in which charcoal can be made to burn, the water in this way being readily raised to the required temperature. Before he enters the tub the bather thoroughly lathers himself from head to foot and washes the suds off by means of a wooden ladle or dipper. He then sits in the tub immersed up to his chin for several minutes, enduring a degree of heat by which a European would be well-nigh parboiled. When first Japan began to study the methods of Western nations the excessive heat of the baths was strongly condemned and a law was made that the water in the public baths should be only moderately heated. This caused great discontent, so a committee composed of European and Japanese medical men was appointed to decide the question. The verdict was in favour of the national custom which was pronounced to be not only harmless but beneficial. The high temperature of the water was said to open the pores of the skin thoroughly, even without the use of soap; and a healthy action of the skin and cleanliness were secured which it was impossible to get with any amount of washing in cold or so-called hot baths. The hotter the water the less chance there was of catching cold, while a very hot bath taken when it was felt that a cold was coming on was the very best method of aborting it. The invigorating effect of a very hot bath after a tedious day's journey in hot or cold weather was wonderful, and very different from the relaxing effect of a tepid bath. It soothed the nerves, eased the tired muscles, promoted appetite, and gave sound sleep. In very cold weather a really hot bath had the effect of preventing the cold being felt for several hours afterwards, while in hot weather it had a distinctly cooling effect.

A SUGGESTED MEDICAL BADGE.

To the Editors of THE LANCET.

SIRS,—The following incident has impressed upon me the desirability of the members of our profession wearing a distinctive badge or other emblem by which we could be recognised as followers of the healing art.

At a political gathering at which I happened to be present the other day one of the audience was seized by a fainting fit. Some of the people on the platform signalled to me that my services were required and I was soon by the side of the sufferer. I removed him away from the crowd, unloosened his clothes, and laid him down on the ground. Just as he was beginning to come round a gentleman whom I did not know, evidently also a doctor, made his way to the spot where I was kneeling with my fingers on the pulse of the patient, and without taking the least notice of me commenced to busy himself with a hypodermic syringe case. As the patient was getting better I said to the newcomer that an injection was not necessary, whereupon he brusquely answered me, "You mind your own business." I merely retorted, "Well, it is my business, since I am a doctor and was here before you." This brought an immediate apology from my colleague, who, looking at me more closely, recognised me as a former fellow student of his. We both took the situation calmly and there was no further unpleasantness, the patient meanwhile continuing to improve. But the group of people standing round enjoyed the discomfiture of my friend who made a hasty retreat, so that altogether the scene was one that brought no credit to our profession.

Now I am far from blaming my friend. He did not know that I was also a doctor and was probably nettled at being interfered with by one whom he took to be a layman. But had I in the place of, or in addition to, my conventional silk hat and frock-coat worn a badge or mark such as I suggest the incident would not have occurred. On former occasions when happening to be near an accident and willing to render what aid I could I have had to fight my way through the crowd and to exclaim: "Let me pass, I am a doctor." Once a policeman would not believe me when I offered my services in such circumstances, probably because I wore a lounge jacket and soft hat.

I should imagine this must be a common experience of most medical men and therefore throw out the suggestion that in the absence of a special garb to which there appears to be an objection which I do not share, we should all provide ourselves with a distinctive badge or rosette to be worn regularly or exhibited when the occasion demands it. If there is already such a badge in existence anywhere it would be a great advantage to introduce it universally, on the analogy of the Esperantist badge. I can conceive numerous situations when such a means of mutual recognition would be of the greatest benefit and trust that the matter will be taken up by the medical press of this and other countries.

I am, Sirs, yours faithfully,

Manchester, Sept. 9th, 1907. J. DULBERG.

CEMENTS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers recommend to me, for the mending of glass measures, a cement that will stand the subsequent wetting of every-day use? I have tried most of the ordinary advertised cements, but none will stand frequent wetting even with cold water. I have seen a cement which set in a few minutes like marble and would stand soaking in hot water. The user of it, a serpentine worker in Cornwall, told me that it was simply plaster of Paris with powdered rosin. I have tried every combination of these two without any success. I have also tried a prescription for plaster of Paris with a solution of rosin in caustic soda, but with equal lack of success. There are so many small breakages of glass vessels in a surgery that a cement such as I have indicated is a great desideratum.

I am, Sirs, yours faithfully,

Bromsgrove, Sept. 10th, 1907. C. KIDD.

*** We shall be glad to hear from any of our readers who may have had experience of a cement such as our correspondent requires. In the meantime we would recommend him to try one of the two following: 1. Freshly burned quicklime and casein. The most convenient form of casein is the soluble form known as casumen, which may be obtained from Messrs. Prideaux, of Motcombe, Dorset. Mix the casein with water into a fairly thick cream. Then gradually add the quicklime, which must be freshly burned and in fine powder. Stir all the time until the mixture, which will become hot, gets sticky.

Apply a thin coating to the broken surfaces of the vessel, which surfaces must be scrupulously clean, press them together, and, if possible, keep under pressure for 12 hours. 2. Another good cement for glass is the following: Solution of Russian isinglass. The solution should be of a thin, treacly consistence. Then add a few drops of a 5 per cent. solution of potassium bichromate. Use in the same way as the casein cement.—ED. L.

SOME QUERIES.

To the Editors of THE LANCET.

SIRS,—I shall be much obliged by your inserting the following three inquiries in your columns:—

1. Can any of your readers give any information as regards the "Coppins' Green Sanatorium" near Clacton-on-Sea?

2. Have any of your readers bought a motor-car through the medium of the "Automobile Contract Co.," Conduit-street, W., and if so, what was their experience of their system of deferred payments?

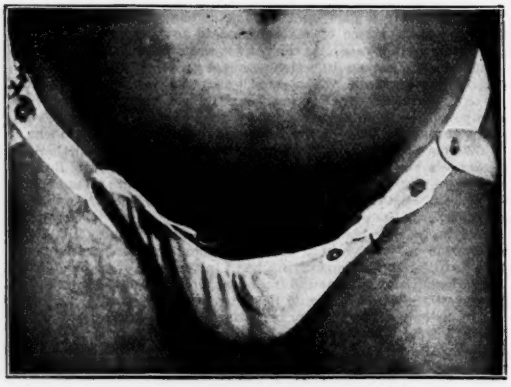
3. What is the experience of any medical owner of the 8 h.p. Rover two seater, 1907 model, as regards reliability, non-stopping, &c.?

I am, Sirs, yours faithfully,

Sept. 8th, 1907. CYMRU.

THE "MARSHALL" SUSPENDER.

THE form of suspender depicted in the illustration is distinctly a useful one for the athlete or the sufferer from varicocele. The bag does not cut, chafe, or press upon the under side of the scrotum, the whole of the genitals being slung in it in a comfortable manner. In many surgical conditions and for those who go in for hunting or polo



playing, for fencing or cycling, the suspender will be found very useful. The manufacturers of the suspender are Messrs. Croyden and Co., Limited, 55, Wigmore-street, Cavendish-square, London, W.

AGE LIMIT.

To the Editors of THE LANCET.

SIRS,—I wish to draw general attention to the increasing fashion of public bodies of various sorts advertising appointments and including a statement that no person over 40 years of age need apply. I think many of your readers will agree with me that this limitation is quite unreasonable and contrary to public policy. Is there to be no refuge but the workhouse for men, probably with wives and families dependent on them, who after obtaining a ripe experience in some special branch of knowledge lose an appointment after the age of 40 years has been reached from circumstances over which they have no control and without any discredit to their honour. Age limit is an intelligible restriction in any case where superannuation pay would be forthcoming in due course, but not otherwise.

Would the councillors admit that they themselves are not doing, or capable of doing, useful work in an up-to-date manner, simply because they are over 40? I think not. Indeed, there are some "youngsters" of *65 years and upwards* on my council who think that all the good work done here is due solely to their efforts.

I am, Sirs, yours faithfully,

Sept. 10th, 1907. NEC SENEX, NEC JUVENIS.

LOATHSOME BED STUFFING.

To the Editors of THE LANCET.

SIRS,—May I draw your attention to the urgent necessity that exists for the establishment of some system of inspection of the places where bedding is made or re-made and cleansed? That such work is sometimes carried out at present under the most insanitary and odious conditions is an undoubted fact, one, indeed, of which I have an ocular demonstration almost daily. My windows overlook the little backyard of an upholsterer's shop in a respectable street in a fashionable quarter of London and there I see bedding "cleaned" in the following manner. The hair, flock, or wool contents of the beds or mattresses are emptied out either on an old door, an inadequate and dirty piece of canvas, or on the bare ground and beaten with rods by a lad or two, the stuff naturally flying hither and thither during the operation. The yard is unpaved, generally wet, always dirty; it is the playground of a family of children of unclean and disgusting habits, and in it are situated the water-closet, which is, I have reason to think, seldom, if ever, cleaned out, and the dust-bin. When the "cleaning" is finished the stray bedding stuff is swept up from the muddy yard and *from out of the closet*—this is the truth—and carried in ready to be packed into its new tick and returned to its blissfully ignorant owner.

The shop itself is quite tidy and clean, its tenant has every appearance of a respectable trustworthy tradesman, and no one who has not had the opportunity of getting a glimpse behind the scenes would suspect the real state of things. I fear that the case I am describing is not unique and the very idea that it is not so is disquieting.

I am, Sirs, yours faithfully,

Sept. 9th, 1907. R. B. K.

SANATORIUM TREATMENT OF TUBERCULOSIS.

EASTBY Sanatorium for the treatment of tuberculous patients chargeable to the board of guardians of Bradford in Yorkshire was opened in November, 1903, and a summary of the results obtained from that date up to June 30th, 1907, has been prepared by Dr. B. Holroyd Slater, the medical superintendent. The statistics show that 223 patients were admitted, two died, and 198 were discharged. For estimating the results of treatment the patients were divided into three classes—namely, Class A, in which the total extent of disease was not greater than two-thirds of one lobe of one lung; Class B, in which an area not greater than one and a half lobes was involved; and Class C, in which a greater area was involved. Of the patients admitted, 92 (i.e., 40·7 per cent.) belonged to Class A and 87 (i.e., 38·5 per cent.) to Class B; 50 of the former and four of the latter were discharged "provisionally cured." Of the 198 discharges, 151 occurred from six months to over three years ago, and of these patients 51 were last June in good health and full work.

THE REMOVAL OF POWDER STAINS.

To the Editors of THE LANCET.

SIRS,—Can any of your readers offer a suggestion in the following case? An officer, as a result of a gunpowder explosion, has the whole of one side of his face marked by powder which is just beneath the skin, giving a freckled appearance. Are there any means of removing these particles or lessening the disfiguring appearance?

I am, Sirs, yours faithfully,

August 16th, 1907. A. F. H.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (16th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (3 P.M.), St. Mark's (2.30 P.M.).

TUESDAY (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (2 P.M., Ophthalmic, 2.15 P.M.), Tottenham (2.30 P.M.).

WEDNESDAY (18th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Ear (2 P.M.), Royal Orthopædic (3 P.M.), Children, Gt. Ormond-street (9.30 A.M., Dental, 2 P.M.), Tottenham (Ophthalmic, 2.30). P.M.

THURSDAY (19th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Royal Orthopædic (9 A.M.), Royal Ear (2 P.M.), Children, Gt. Ormond-street (2.30 P.M.), Tottenham (Gynæcological, 2.30 P.M.).

FRIDAY (20th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's

(2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.), Children, Gt. Ormond-street (9 A.M., Aural, 2 P.M.), Tottenham (2.30 P.M.), St. Peter's (2 P.M.).

SATURDAY (21st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.), Children, Gt. Ormond-street (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (16th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Eye. 2.30 P.M.: Operations. X Rays
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. S. E. Dore: Clinique. (Skin.)

TUESDAY (17th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. X Rays. Dr. Abraham: Diseases of the Skin.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Dr. J. E. Squire: Clinique. (Medical.)

WEDNESDAY (18th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. Dr. Saunders: Diseases of Children. 2 P.M.: Medical and Surgical Clinics. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations. X Rays. Dr. Robinson: Diseases of Women.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. P. L. Daniel: Clinique. (Surgical.)

THURSDAY (19th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Diseases of the Eye. 2.30 P.M.: Operations. X Rays.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. Hutchinson: Clinique. (Surgical.)

FRIDAY (20th).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—2 P.M.: Medical and Surgical Clinics. Dr. Ball: Diseases of the Throat, Nose, and Ear. 2.30 P.M.: Operations. X Rays. Dr. Abraham: Diseases of the Skin.
MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M.: Mr. W. Stuart-Low: Clinique. (Ear.)

SATURDAY (21st).—POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—10 A.M.: Dr. Ball: Diseases of the Throat, Nose, and Ear. 2 P.M.: Medical and Surgical Clinics. Mr. K. Scott: Diseases of the Eye. 2.30 P.M.: Operations. X Rays. Dr. Robinson: Diseases of Women.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

THE INDEX TO THE LANCET.

THE Index to Vol. I. of 1907, which was completed with the issue of June 29th, and the Title-page to the Volume, were given in THE LANCET of July 6th.

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METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Sept. 12th, 1907.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radio in Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks.
Sept. 6	30·01	S.W.	0·02	95	71	61	62	62	Raining
" 7	30·22	S.W.	...	84	68	62	63	65	Cloudy
" 8	30·33	E.	...	106	72	60	60	62	Overcast
" 9	30·46	E.	...	110	71	56	57	59	Overcast
" 10	30·33	E.	...	113	71	54	55	56	Fine
" 11	30·24	E.	...	105	71	48	52	54	Fine
" 12	30·17	N.E.	...	100	68	54	57	59	Fine

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